



United States  
Department of  
Agriculture



NRCS

Natural  
Resources  
Conservation  
Service

In cooperation with  
United States Department of  
the Interior, Bureau of Land  
Management; University of  
Idaho, College of Agriculture;  
and Idaho Soil Conservation  
Commission

# Soil Survey of Butte County Area, Idaho, Parts of Butte and Bingham Counties







# How To Use This Soil Survey

## General Soil Map

The [general soil map](#), which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

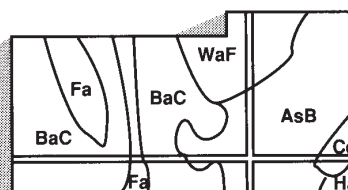
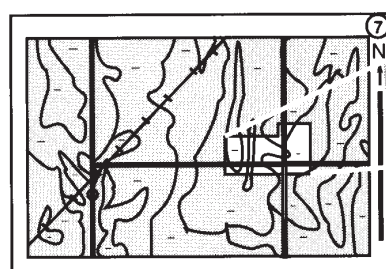
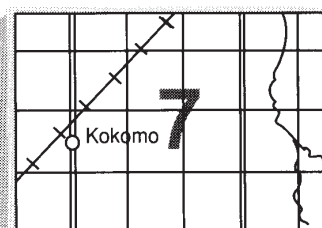
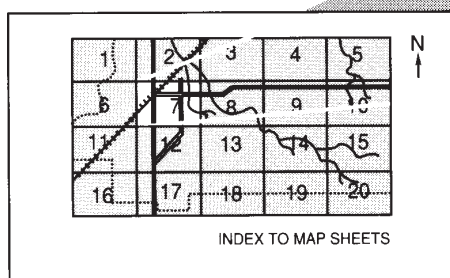
To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section [General Soil Map Units](#) for a general description of the soils in your area.

## Detailed Soil Maps

The [detailed soil maps](#) can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the [Contents](#), which lists the map units by symbol and name and shows the page where each map unit is described.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.

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## National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the United States Department of the Interior, Bureau of Land Management; University of Idaho, College of Agriculture; and Idaho Soil Conservation Commission. The survey is part of the technical assistance furnished to the Butte Soil and Water Conservation District and South Bingham Soil Conservation District.

Major fieldwork for this soil survey was completed in 1995. Soil names and descriptions were approved in 1997. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1997. The most current soil information and interpretations for this survey area are available either through the Soil Data Mart or in the Field Office Technical Guide (FOTG) at the local field office of the Natural Resources Conservation Service. The Soil Data Mart is the Natural Resources Conservation Service data storage site for the official soil survey information. The FOTG is linked to the Soil Data Mart; therefore, the same information is available from both sources. Soil survey maps and tabular data can be accessed through the Soil Data Mart at <http://soildatamart.nrcs.usda.gov>. The official soil survey information stored at the Soil Data Mart and this soil survey report are also available through Web Soil Survey at <http://soils.usda.gov/survey>.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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View of Big Lost River Valley, looking north from King Mountain near Moore, Idaho, toward the town of Mackay. Mt. Borah is in background at right. (Photograph by Randy Purser, supervisor, Butte County Soil and Water Conservation District, Arco, Idaho, 2007.)

*Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at <http://www.nrcs.usda.gov>.*



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# Foreword

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Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

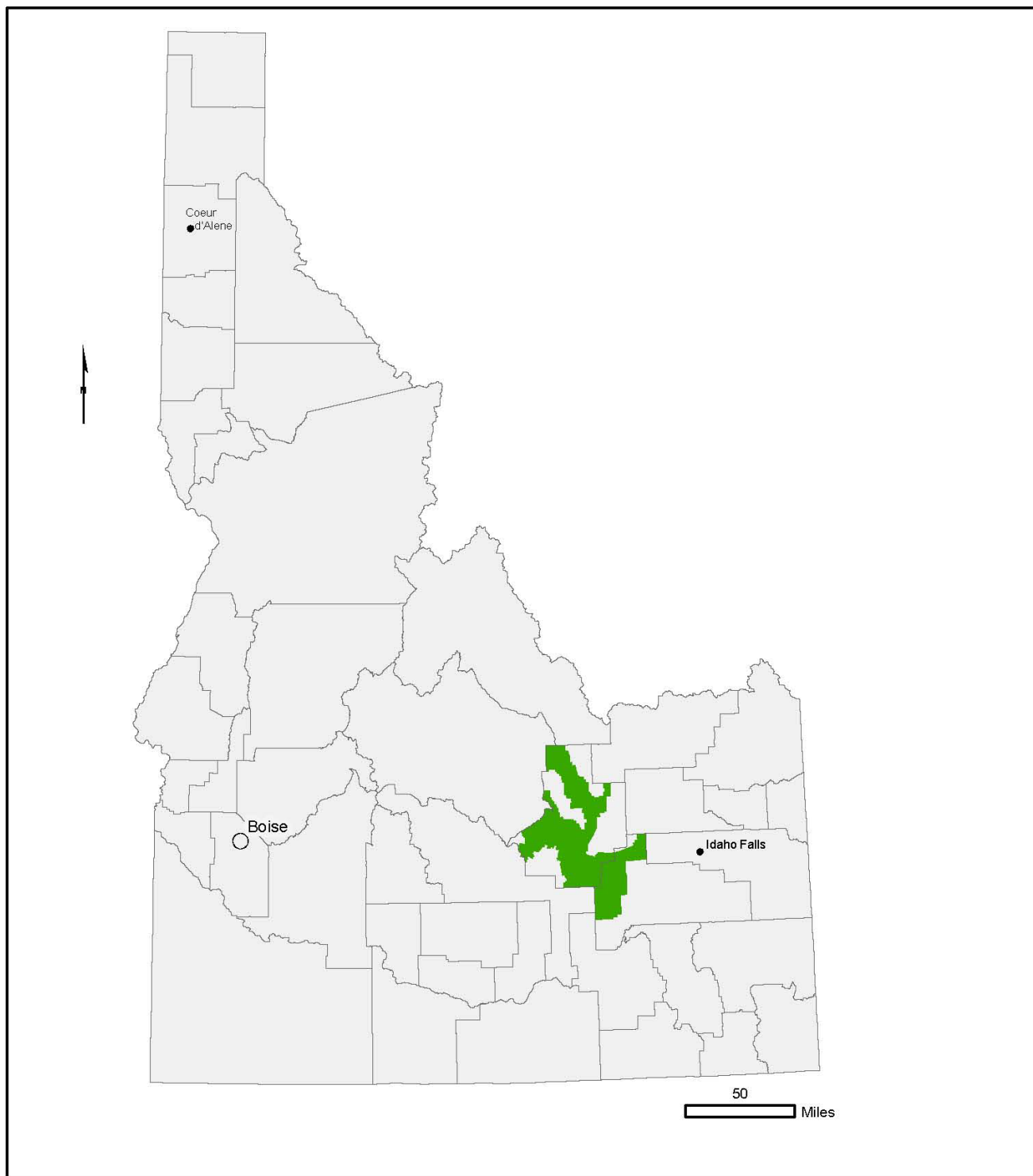
Soil surveys are designed for many different users. Farmers, ranchers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Jeffery Burwell  
State Conservationist  
Natural Resources Conservation Service



Location of Butte County Area in Idaho.

# Soil Survey of Butte County Area, Idaho, Parts of Butte and Bingham Counties

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By Rulon Winward, Natural Resources Conservation Service, and Darwin Jeppesen, Bureau of Land Management

Fieldwork by Karl Hipple, Karen Langersmith, Rulon Winward, and Larry Wright, Natural Resources Conservation Service, and Darwin Jeppesen, Bureau of Land Management

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with  
United States Department of the Interior, Bureau of Land Management; University of Idaho, College of Agriculture; and Idaho Soil Conservation Commission

BUTTE COUNTY AREA is in the south-central part of Idaho. It has a total area of 1,013,906 acres, or about 1,584 square miles. Of this, 749,842 acres is in Butte County and 264,064 acres is in Bingham County. The survey area consists of private and State land and Federal land administered by the Bureau of Land Management. Arco, the county seat, had a population of 1,260 in 2000.

Extensive basalt plains are in the survey area, dominantly in the central and southern parts. These areas have a mantle of loess, alluvium, volcanic ash, and cinders underlain by basalt. Extensive outwash fans and fan terraces extend from the foothills to the river bottoms. The Big Lost and Little Lost Rivers are the main drainageways, flowing south through the survey area. Adjacent to these rivers are flood plains and stream terraces. The northwestern part of the survey area consists of rugged mountains consisting dominantly of limestone and volcanic rock.

The lowest elevation in the survey area, about 4,790 feet, is near the Big Lost River Sinks area. The highest point, about 9,750 feet, is Hawley Mountain, in the northern part of the area.

## General Nature of the Survey Area

This section provides general information about the survey area. It describes history and development and climate.

### History and Development

The history and development of what is now known as Butte County evolved along the two prominent rivers that flow from the Pioneer Range on the west side, Lost River Range in the center, and Lemhi Range on the east side. In earliest history, the Big Lost River was referred to as Godin's River and the Little Lost River as John Day's River.

In 1823, Anton Godin and a company of French fur traders tried to follow the Big Lost River from the mountains across the desert to the Snake River. The river was named "Lost River" because it sinks to oblivion in the lava formations of the Snake



River Plain. Permanent settlement of the area began in 1878, when stockmen and farmers began to filter into the fertile valleys. The valleys are watered by the Big Lost River and its sister stream, the Little Lost River, which waters the valley to the east of the Lost River Range. Early farmers marketed their crops in the small towns that sprang up as a result of silver, copper, and gold mining.

In the 1840's, during the rush to the Oregon Country, large numbers of settlers followed the Goodale Cutoff of the Oregon Trail. Because of trouble with the Indians and the harsh lava on this route, few stayed in the area. In the latter part of the 1850's through the 1870's, herds of cattle, horses, and sheep were driven through this area on the way to the Great Plains. A few of the cowboys, recognizing the possibilities of grazing in the valleys and foothills, remained and became the early pioneers.

Because of the sparse rainfall in the area, totaling only about 8 to 12 inches annually, it was soon realized that farming was dependent upon irrigation. The first water rights were recorded in 1879. Homesteaders moved into the area during the 1880's and 1890's, and several small towns, including Arco, Howe, Moore, Martin, and Era, were established.

The early history of Arco is interesting. The settlers needed a post office; therefore, they needed a town. They submitted the name "Junction" since the area served as a junction to the mining areas, the valleys of the Big Lost and Little Lost Rivers, the smelter facilities of Utah and Montana, and the communities on the Snake River to the east. The Postal Service already had many towns named Junction, so the name "Arco" was suggested as an alternative. The origin of this name is still disputed, although the most accepted is that it was chosen in honor of a Russian nobleman who visited the area.

As the area was settled, small towns were established to serve the settlers. The Big Lost and Little Lost Rivers supplied irrigation water. The settlers soon realized that a large reservoir was needed to ensure the success of farming in the valley; therefore, the Mackay Dam and Reservoir were developed in the Big Lost River Valley. Under Federal legislation called the Carey Act, more than 80,000 acres of farmland was planned for irrigation development, much of it on the normally arid northern Snake River Plain. The regular cycles of drought brought an early end to such projects and to the towns of Powell and McCollum.

Meanwhile, stage lines were established that connected this area to the growing cities of Idaho Falls (formerly Eagle Rock) and Blackfoot. One of the stations was in the town of Arco, which was southeast of its present location. In 1901, Arco was moved to its present location as a result of the Oregon Short Line Railroad extending to the mining community of Mackay.

Butte County was established by the Idaho Legislature in 1917. It was carved from Blaine County, which had served the area for years. The new county became official on May 8, 1917.

Homesteading and irrigated farming brought many changes. The era of large ranches ended, and smaller irrigated farms were established. During the 1920's and 1930's, before the disastrous drought of the 1930's, crops in the valleys included sugar beets, carrots, and lettuce on a fairly large scale. Taking advantage of the high elevation, varieties of vigorous certified potato seed were also developed. The transition from large livestock ranches to smaller irrigated farms resulted in livestock producers placing a much greater emphasis on grazing in the mountainous areas and in the desert and wintering on the smaller farms of the valleys. This resulted in large-scale production of irrigated alfalfa hay, which brought recognition to Butte County as a producer of quality hay and livestock.

During World War I, a Naval gunnery range was installed in the desert east of Arco, making use of the sparsely populated sagebrush steppe area. Following the closure of the gunnery range in 1947, the Atomic Energy Commission established the

National Reactor Testing Station in 1949. This provided employment for many of the residents in the valleys, including construction and technical positions and a variety of other related positions. The name of the station has been changed several times. On December 20, 1951, the first usable electric power was generated at Experimental Reactor No. 1. On July 17, 1955, Arco became the first city in the world lit by atomic energy, which was produced by Boiling Water Reactor No. 3. Two thousand kilowatts of electrical power was fed over Utah Power Company lines to serve the city for about 2 hours. This tract of land, which is more than three-fourths the size of Rhode Island, is used by the Department of Energy for a wide range of energy-related and scientific environmental developments.

Tourism in the survey area is centered mainly around the Craters of the Moon National Monument in the western part of Butte County and its location as the gateway to the popular Salmon River area. Also important are the fishing, hunting, and camping opportunities.

Since the establishment of Butte County, the population of the area has remained fairly stable at about 3,500. Farmers and ranchers are the “backbone” of the county. The Bureau of Land Management manages most of the Federal land in the survey area. Many farmers and ranchers rely on public and private rangeland for grazing in spring and summer and early in fall. The lower valleys, which are mostly private land, are used for grazing in fall and winter.

## Climate

Climate data are provided in the tables [“Temperature and Precipitation,”](#) [“Freeze Dates in Spring and Fall,”](#) and [“Growing Season.”](#) The data were recorded in the period 1961 to 1990 at Arco, Craters of the Moon National Monument, and Howe, Idaho.

In winter, the average temperature is 21 degrees F and the average daily minimum temperature is 9 degrees. The lowest temperature on record is -45 degrees. In summer, the average temperature is 64 degrees and the average daily maximum temperature is 82 degrees. The highest recorded temperature is 100 degrees.

Growing degree days are shown in the table [“Temperature and Precipitation.”](#) They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is about 11 inches. Of this, 6 inches, or 55 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 2 inches.

The average seasonal snowfall is about 31 inches. On the average, 25 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

## How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from

the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Approximately 8,700 acres, or 0.9 percent of the survey area, was not mapped because permission to access the land was denied by the landowners.





# General Soil Map Units

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The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

## ***Soils on Stream Terraces and Flood Plains***

### **1. Mooretown-Dickeypeak-Thosand**

*Very deep, somewhat poorly drained and poorly drained soils that formed in mixed alluvium and have slopes of 0 to 4 percent*

*Percentage of survey area:* 1 percent

*Landform:* Mooretown and Thosand—stream terraces and flood plains, Dickeypeak—stream terraces

*Elevation:* 5,000 to 6,300 feet

*Frost-free period:* 35 to 90 days

*Mean annual precipitation:* 9 to 12 inches

*Minor components:* Arco, Crooked Creek, Bigrant, Borah, and Sancrane soils

*Major use:* Irrigated pasture, irrigated cropland, and nonirrigated pasture

## ***Soils on Fan Remnants and Foothills***

### **2. Techick-Soelberg**

*Very deep, well drained soils that formed in mixed alluvium and have slopes of 0 to 8 percent*

*Percentage of survey area:* 7 percent

*Landform:* Techick and Soelberg—fan remnants

*Elevation:* 5,000 to 5,600 feet

*Frost-free period:* 70 to 90 days

*Mean annual precipitation:* 11 to 13 inches

*Minor components:* Bockston, Blackfoot, Borco, Mooretown, Starlite, and Whiteknob soils

*Major use:* Irrigated cropland, irrigated pasture, and rangeland

### 3. Zer-Snowslide-Soen

*Very deep, well drained soils that formed in alluvium, slope alluvium, and colluvium derived from mixed sources and have slopes of 0 to 50 percent*

*Percentage of survey area:* 7 percent

*Landform:* Zer, Snowslide, and Soen—fan remnants and hillslopes

*Elevation:* 4,000 to 7,500 feet

*Frost-free period:* 60 to 90 days

*Mean annual precipitation:* 8 to 14 inches

*Minor components:* Breitenbach, Buist, Bunting, Darlington, Dredge, Fulwider, and Lesbut soils

*Major use:* Rangeland

### 4. Simeroi-Sparmo-Fallert

*Very deep, well drained soils that formed in alluvium, slope alluvium, and colluvium derived dominantly from limestone and have slopes of 1 to 60 percent*

*Percentage of survey area:* 14 percent

*Landform:* Simeroi—fan remnants and hillslopes, Sparmo and Fallert—fan remnants

*Elevation:* 4,800 to 8,000 feet

*Frost-free period:* 40 to 90 days

*Mean annual precipitation:* 8 to 12 inches

*Minor components:* Bluedome, Fandow, Goosebury, Leatherman, Paint, Sanfelipe, Slide, and Whitecloud soils

*Major use:* Rangeland

## Soils Dominantly on Lava Plains

### 5. Nargon-Coffee-Atom

*Moderately deep to very deep, well drained soils that formed in mixed alluvium derived from basalt and have slopes of 0 to 20 percent*

*Percentage of survey area:* 25 percent

*Landform:* Nargon, Coffee, and Atom—lava plains

*Elevation:* 4,500 to 5,800 feet

*Frost-free period:* 70 to 110 days

*Mean annual precipitation:* 9 to 12 inches

*Minor components:* Deuce, Menan, Pancheri, Polatis, and Splittop soils

*Major use:* Rangeland

### 6. McCarey-Beartrap-Techicknot

*Moderately deep to very deep, well drained soils that formed dominantly in mixed alluvium derived from basalt and have slopes of 0 to 20 percent*

*Percentage of survey area:* 18 percent

*Landform:* McCarey, Beartrap, and Techicknot—lava plains

*Elevation:* 4,500 to 5,800 feet

*Frost-free period:* 70 to 100 days

*Mean annual precipitation:* 9 to 16 inches

*Minor components:* Atom soils; Lava flows; Molyneux, Nargon, Splittop, Tenno, and Vickton soils

*Major use:* Rangeland

## 7. Portino-Thornock

*Moderately deep and shallow, well drained soils that formed in mixed alluvium and loess over basalt and have slopes of 1 to 12 percent*

*Percentage of survey area:* 2 percent

*Landform:* Portino and Thornock—lava plains

*Elevation:* 4,400 to 4,700 feet

*Frost-free period:* 100 to 120 days

*Mean annual precipitation:* 8 to 11 inches

*Minor components:* Kimama, McCain, McClendon, Minidoka, and Truesdale soils

*Major use:* Rangeland

## 8. Malm-Matheson-Stan

*Moderately deep to very deep, well drained soils that formed in eolian deposits over basalt and mixed alluvium and have slopes of 1 to 25 percent*

*Percentage of survey area:* 3 percent

*Landform:* Malm and Matheson—dominantly lava plains, Stan—fan remnants

*Elevation:* 4,800 to 5,500 feet

*Frost-free period:* 70 to 100 days

*Mean annual precipitation:* 7 to 13 inches

*Minor components:* Bondfarm, Breitenbach, and Grassy Butte soils

*Major use:* Rangeland

## 9. Lava flows-Pingree-Cinderhurst

*Lava flows, and very shallow, well drained soils that formed in loess and eolian deposits and tephra over basalt and have slopes of 0 to 20 percent*

*Percentage of survey area:* 5 percent

*Landform:* Lava flows, Pingree, and Cinderhurst—lava plains

*Elevation:* 4,500 to 6,000 feet

*Frost-free period:* 60 to 110 days

*Mean annual precipitation:* 9 to 14 inches

*Minor components:* Deuce and Nargon soils

*Major use:* Rangeland

## ***Soils on Foothills and Mountains***

## 10. Howcan-Hutchley-Hagenbarth

*Shallow, deep, and very deep, well drained soils that formed in colluvium and slope alluvium derived from volcanic rock and have slopes of 5 to 60 percent*

*Percentage of survey area:* 5 percent

*Landform:* Howcan—hillslopes and mountain slopes, Hutchley—ridges,  
Hagenbarth—hillslopes

*Elevation:* 5,000 to 7,500 feet

*Frost-free period:* 45 to 80 days

*Mean annual precipitation:* 12 to 16 inches

*Minor components:* Cronks, Dacont, Donkehill, Hondoho, Jonda, Frymire, Grouseville,  
Riverlost, and Zeebar soils

*Major use:* Rangeland and wildlife habitat

## 11. Ike-Jimbee-Bealand

*Shallow and very deep, well drained soils that formed in colluvium and slope alluvium derived from limestone and have slopes of 10 to 90 percent*

*Percentage of survey area:* 11 percent

*Landform:* Ike—ridges and south aspects of hillslopes and mountain slopes,  
Jimbee—ridges and north aspects of hillslopes and mountain slopes,  
Bealand—hillslopes and mountain slopes

*Elevation:* 5,000 to 9,000 feet

*Frost-free period:* 30 to 80 days

*Mean annual precipitation:* 8 to 26 inches

*Minor components:* Inel, Nitchly, Simeroi, and Zeale soils

*Major use:* Rangeland and wildlife habitat

## 12. Mogg-Shagel-Zeebar

*Shallow and very deep, well drained soils that formed in colluvium and slope alluvium derived from rhyolite and quartzite and have slopes of 15 to 60 percent*

*Percentage of survey area:* 1 percent

*Landform:* Mogg—ridges and south aspects of hillslopes and mountain slopes,  
Shagel—north aspects of hillslopes and mountain slopes, Zeebar—ridges,  
hillslopes, and mountain slopes

*Elevation:* 5,000 to 9,000 feet

*Frost-free period:* 10 to 90 days

*Mean annual precipitation:* 10 to 18 inches

*Minor components:* Ketchum, Klug, Lag, and Nurkey soils

*Major use:* Rangeland and wildlife habitat

## 13. Lavacreek-Dollarhide-Vitale

*Shallow to deep, well drained soils that formed dominantly in colluvium and slope alluvium derived from sandstone, siltstone, conglomerate, and welded tuff and have slopes of 5 to 60 percent*

*Percentage of survey area:* 1 percent

*Landform:* Lavacreek—north aspects of mountain slopes, Dollarhide—ridges and  
north aspects of hillslopes and mountain slopes, Vitale—south aspects of  
mountain slopes

*Elevation:* 5,000 to 9,300 feet

*Frost-free period:* 30 to 90 days

*Mean annual precipitation:* 12 to 24 inches

*Minor components:* Grassycone, Hal, and Moonville soils

*Major use:* Rangeland and wildlife habitat

## Detailed Soil Map Units

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The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil

phase commonly indicates a feature that affects use or management. For example, Arco silt loam, 0 to 2 percent slopes, is a phase of the Arco series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes and associations.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Atom-Splittop complex, 1 to 4 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Lavacreek-Vitale association, 30 to 60 percent slopes, is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Lava flows is an example.

Each detailed soil map unit is assigned to a major land resource area (MLRA) (USDA Agriculture Handbook 296). The MLRA for each detailed soil map unit is given in this section. Some map units, such as Rock outcrop, Water, and other miscellaneous areas, may not be assigned to a single MLRA because the unit can occur in any MLRA.

The table [“Acreage and Proportionate Extent of the Soils”](#) lists the map units in this survey area. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

## **1—Arco silt loam, 0 to 2 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 4,700 to 5,900 feet

*Mean annual precipitation:* 8 to 12 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 70 to 90 days

### **Map Unit Composition**

*Arco and similar soils:* 85 percent

*Dissimilar minor components:* 15 percent

### **Characteristics of Arco Soil**

#### **Setting**

*Landform:* Stream terraces, flood plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Somewhat poorly drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* Occasional (see Water Features table)

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* About 24 to 35 inches (see Water Features table)

*Salinity (maximum):* Very slightly saline (about 3 millimhos per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very high (about 10.4 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4c

*Land capability subclass (irrigated):* 3w

*Ecological site:* DRY MEADOW PONE3-PHAL2 (R012XY023ID)

### **Typical profile**

A—0 to 4 inches; silt loam

Bk—4 to 26 inches; silt loam

Bkg—26 to 60 inches; silt loam

### ***Dissimilar Minor Components***

- Pancheri soils—10 percent
- Bigrant soils—5 percent

### ***Major Uses***

Irrigated cropland, irrigated pastureland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***2—Atom silt loam, 1 to 3 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 5,400 to 5,600 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 90 days

### ***Map Unit Composition***

*Atom and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

### ***Characteristics of Atom Soil***

#### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear



*Aspect (representative):* South

*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 1 to 3 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 22

*Available water capacity (entire profile):* High (about 8.1 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6c

*Land capability subclass (irrigated):* 3c

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

### **Typical profile**

A—0 to 9 inches; silt loam

Bk1—9 to 33 inches; silt loam

Bk2—33 to 60 inches; silt loam

### ***Dissimilar Minor Components***

- Bockston soils—5 percent
- Lesbut soils—5 percent
- Splittop soils—5 percent
- Tenno soils—5 percent

### ***Major Uses***

Irrigated cropland, irrigated pastureland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***3—Atom silt loam, 3 to 8 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,500 to 5,500 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 80 to 110 days



### **Map Unit Composition**

*Atom and similar soils:* 85 percent

*Dissimilar minor components:* 15 percent

### **Characteristics of Atom Soil**

#### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 3 to 8 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 22

*Available water capacity (entire profile):* Moderate (about 7.1 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

#### **Typical profile**

A1—0 to 3 inches; silt loam

A2—3 to 10 inches; silty clay loam

Bkq—10 to 29 inches; silt loam

Bk—29 to 60 inches; silt loam

### **Dissimilar Minor Components**

- Nargon soils—7 percent
- Splittop soils—3 percent
- Menan soils—2 percent
- Deuce soils—1 percent
- Playas—1 percent
- Rock outcrop—1 percent

### **Major Use**

Rangeland

### **Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## **4—Atom-Splittop complex, 1 to 4 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 5,200 to 5,400 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 90 days

### **Map Unit Composition**

*Atom and similar soils:* 50 percent

*Splittop and similar soils:* 40 percent

*Dissimilar minor components:* 10 percent

### **Characteristics of Atom Soil**

#### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 22

*Available water capacity (entire profile):* Moderate (about 7.1 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6c

*Land capability subclass (irrigated):* 3c

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

#### **Typical profile**

A1—0 to 3 inches; silt loam

A2—3 to 10 inches; silty clay loam

Bkq—10 to 29 inches; silty clay loam

Bk—29 to 60 inches; silt loam

### **Characteristics of Splittop Soil**

#### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Eolian deposits over basalt

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 5.2 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6c

*Land capability subclass (irrigated):* 3c

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

**Typical profile**

A—0 to 3 inches; silt loam

Bk1—3 to 30 inches; silt loam

Bk2—30 to 34 inches; loam

2R—34 to 44 inches; unweathered bedrock

***Dissimilar Minor Components***

- Tenno soils—8 percent
- Rock outcrop—2 percent

***Major Uses***

Irrigated cropland, irrigated pastureland, rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***5—Bealand-Zeale complex, 10 to 70 percent slopes*****Map Unit Setting**

*General landscape:* Foothills, mountains

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 8,500 feet

*Mean annual precipitation:* 13 to 15 inches

*Mean annual air temperature:* 38 to 42 degrees F

*Frost-free period:* 40 to 55 days

### **Map Unit Composition**

*Bealand and similar soils:* 60 percent

*Zeale and similar soils:* 25 percent

*Dissimilar minor components:* 15 percent

### **Characteristics of Bealand Soil**

#### **Setting**

*Landform:* Hillslopes, mountain slopes

*Downslope shape:* Concave

*Across-slope shape:* Concave

*Aspect (representative):* Northeast

*Aspect (range):* North to east (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone

*Slope range:* 20 to 70 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* High (about 7.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY  
(R012XY007ID)

#### **Typical profile**

A—0 to 5 inches; gravelly loam

BAk—5 to 10 inches; gravelly loam

Bk—10 to 39 inches; very gravelly loam

Bkq—39 to 60 inches; very gravelly loam

### **Characteristics of Zeale Soil**

#### **Setting**

*Landform:* Hillslopes, mountain slopes

*Downslope shape:* Convex

*Across-slope shape:* Convex

*Aspect (representative):* Northeast

*Aspect (range):* North to east (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone

*Slope range:* 10 to 45 percent

*Depth to restrictive feature:* 8 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Low (about 4.7 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* LOAMY 12-16 ARTRV/FEID-PSSPS (R012XY012ID)

**Typical profile**

A—0 to 14 inches; gravelly loam  
Bk—14 to 60 inches; very gravelly loam

***Dissimilar Minor Components***

- Jimbee soils—10 percent
- Adek soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
“Recreation”  
“Wildlife Habitat”  
“Engineering”  
“Soil Properties”

***6—Blackfoot loam, 0 to 2 percent slopes*****Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 12  
*Elevation:* 4,800 to 6,000 feet  
*Mean annual precipitation:* 9 to 12 inches  
*Mean annual air temperature:* 42 to 44 degrees F  
*Frost-free period:* 80 to 90 days

***Map Unit Composition***

*Blackfoot and similar soils:* 85 percent  
*Dissimilar minor components:* 15 percent

***Characteristics of Blackfoot Soil*****Setting**

*Landform:* Flood plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 0 to 2 percent  
*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Somewhat poorly drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* About 18 to 35 inches (see Water Features table)

*Salinity (maximum):* Very slightly saline (about 2 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Very high (about 10.9 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6c

*Land capability subclass (irrigated):* 3c

*Ecological site:* ALLUVIAL BOTTOM 8-13 ARTRT/ELLAL-LECI4 (R012XY011ID)

### **Typical profile**

Ap—0 to 7 inches; loam

Bw—7 to 13 inches; loam

Bk—13 to 26 inches; silty clay loam

Bkg—26 to 48 inches; loam

Bg—48 to 60 inches; silty clay loam

### ***Dissimilar Minor Components***

- Borah soils—10 percent
- Mooretown soils—5 percent

### ***Major Uses***

Irrigated cropland, irrigated and nonirrigated pastureland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***7—Bluedome loam, 2 to 6 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 7,200 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 35 to 42 degrees F

*Frost-free period:* 40 to 70 days

### ***Map Unit Composition***

*Bluedome and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

### ***Characteristics of Bluedome Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 2 to 6 percent

*Depth to restrictive feature:* 20 to 40 inches to strongly cemented duripan

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Moderate (about 5.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A—0 to 3 inches; loam

Bk—3 to 36 inches; gravelly loam

2Bkqm—36 to 40 inches; cemented material

2Bkq—40 to 60 inches; extremely gravelly sandy loam

#### ***Dissimilar Minor Components***

- Zer soils—10 percent
- Fandow soils—4 percent
- Sparmo soils—4 percent
- Zeale soils—2 percent

#### ***Major Use***

Rangeland

#### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## **8—*Bluedome-McCaleb complex, 2 to 6 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 4,700 to 7,000 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 36 to 43 degrees F

*Frost-free period:* 40 to 70 days

### **Map Unit Composition**

*Bluedome and similar soils:* 50 percent

*McCaleb and similar soils:* 30 percent

*Dissimilar minor components:* 20 percent

### **Characteristics of Bluedome Soil**

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 2 to 6 percent

*Depth to restrictive feature:* 20 to 40 inches to strongly cemented duripan

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Low (about 4.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A—0 to 11 inches; loam

Bk—11 to 28 inches; loam

2Bkqm—28 to 31 inches; cemented material

2Bkq—31 to 60 inches; extremely gravelly sandy loam

### **Characteristics of McCaleb Soil**

#### **Setting**

*Landform:* Terraces

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects



**Properties and qualities**

*Parent material:* Alluvium derived from sedimentary rock

*Slope range:* 2 to 6 percent

*Depth to restrictive feature:* 40 to 50 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 10

*Available water capacity (entire profile):* High (about 8.8 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SALINE FLAT <8 ATGA/ACHY (R012XY003ID)

**Typical profile**

A—0 to 12 inches; silt loam

Bw—12 to 46 inches; loam

Bk—46 to 60 inches; gravelly loam

***Dissimilar Minor Components***

- Zer soils—10 percent
- Goosebury soils—5 percent
- Whitecloud soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***9—Bockston silt loam, 0 to 4 percent slopes*****Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,400 to 5,600 feet

*Mean annual precipitation:* 9 to 10 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 65 to 80 days

***Map Unit Composition***

*Bockston and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

### ***Characteristics of Bockston Soil***

#### **Setting**

*Landform:* Stream terraces

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 4 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* High (about 9.3 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Land capability subclass (irrigated):* 3e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)

#### **Typical profile**

Ap—0 to 6 inches; silt loam

Bw—6 to 14 inches; loam

Bk1—14 to 22 inches; silt loam

Bk2—22 to 48 inches; loam

Bk3—48 to 60 inches; gravelly fine sandy loam

### ***Dissimilar Minor Components***

- Bockston soils, thick surface—10 percent
- Atomic soils—5 percent
- Techick soils—3 percent
- Arco soils, moderately well drained—2 percent

### ***Major Uses***

Irrigated cropland, irrigated pastureland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## **10—Breitenbach gravelly loam, 1 to 4 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,500 to 6,000 feet

*Mean annual precipitation:* 10 to 13 inches

*Mean annual air temperature:* 40 to 43 degrees F

*Frost-free period:* 70 to 80 days

### **Map Unit Composition**

*Breitenbach and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

### **Characteristics of Breitenbach Soil**

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* South

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 30 to 60 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Sodium adsorption ratio about 1

*Available water capacity (entire profile):* Low (about 3.7 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6c

*Land capability subclass (irrigated):* 3c

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)

#### **Typical profile**

A—0 to 4 inches; gravelly loam

Bw—4 to 12 inches; gravelly sandy loam

2Bk—12 to 41 inches; very gravelly sandy loam

3Bkq—41 to 60 inches; extremely gravelly loamy coarse sand

### **Dissimilar Minor Components**

- Blackfoot soils—10 percent
- Breitenbach soils, thick surface—10 percent

### **Major Use**

Irrigated cropland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***11—Breitenbach-Stan complex, 1 to 4 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 5,300 to 5,400 feet  
*Mean annual precipitation:* 10 to 13 inches  
*Mean annual air temperature:* 40 to 43 degrees F  
*Frost-free period:* 80 to 90 days

### **Map Unit Composition**

*Breitenbach and similar soils:* 65 percent  
*Stan and similar soils:* 25 percent  
*Dissimilar minor components:* 10 percent

### **Characteristics of Breitenbach Soil**

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southwest  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 1 to 4 percent  
*Depth to restrictive feature:* 30 to 60 inches to strongly contrasting textural stratification  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Sodium adsorption ratio about 1  
*Available water capacity (entire profile):* Low (about 3.9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6c  
*Land capability subclass (irrigated):* 3c  
*Ecological site:* SANDY 8-14 ARTRT/HECOC8-ACHY (R011AY014ID)

#### **Typical profile**

A—0 to 3 inches; gravelly loamy sand  
 Bw—3 to 17 inches; gravelly loam

2Bk—17 to 30 inches; very gravelly sandy loam  
2Bkq1—30 to 34 inches; extremely gravelly sandy loam  
3Bkq2—34 to 60 inches; extremely gravelly loamy sand

### ***Characteristics of Stan Soil***

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southwest  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 1 to 4 percent  
*Depth to restrictive feature:* 40 to 60 inches to strongly contrasting textural stratification  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* High  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Low (about 3.1 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Land capability subclass (irrigated):* 3e  
*Ecological site:* SANDY 8-14 ARTRT/HECOC8-ACHY (R011AY014ID)

#### **Typical profile**

A1—0 to 7 inches; loamy fine sand  
A2—7 to 15 inches; loamy fine sand  
Bk1—15 to 24 inches; fine sandy loam  
Bk2—24 to 40 inches; gravelly loamy fine sand  
2Bk3—40 to 60 inches; very gravelly loamy sand

### ***Dissimilar Minor Component***

- Stan soils, loamy subsoil—10 percent

### ***Major Uses***

Irrigated cropland, rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
“Crops and Pasture”  
“Recreation”  
“Wildlife Habitat”  
“Engineering”  
“Soil Properties”

## **12—Buist gravelly loam, 2 to 12 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 6,600 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 42 to 43 degrees F

*Frost-free period:* 70 to 80 days

### **Map Unit Composition**

*Buist and similar soils:* 90 percent

*Dissimilar minor components:* 10 percent

### **Characteristics of Buist Soil**

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium and/or loess

*Slope range:* 2 to 12 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Very slightly saline (about 3 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.8 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A1—0 to 5 inches; gravelly loam

A2—5 to 20 inches; very gravelly loam

Bk1—20 to 33 inches; very gravelly loam

Bk2—33 to 60 inches; extremely gravelly sandy loam

### **Dissimilar Minor Component**

- Beartrap soils—10 percent

### **Major Use**

Rangeland

### **Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

### **13—Bunting gravelly loam, 0 to 2 percent slopes**

#### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 12  
*Elevation:* 6,000 to 6,200 feet  
*Mean annual precipitation:* 13 to 15 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 60 to 70 days

#### **Map Unit Composition**

*Bunting and similar soils:* 95 percent  
*Dissimilar minor components:* 5 percent

#### **Characteristics of Bunting Soil**

##### **Setting**

*Landform:* Stream terraces  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* All aspects

##### **Properties and qualities**

*Parent material:* Alluvium derived from quartzite  
*Slope range:* 0 to 2 percent  
*Depth to restrictive feature:* 14 to 24 inches to strongly contrasting textural stratification  
*Drainage class:* Somewhat excessively drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Low (about 3.6 inches)

##### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4c  
*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

##### **Typical profile**

A—0 to 10 inches; gravelly loam  
 Bw1—10 to 18 inches; gravelly loam  
 Bw2—18 to 22 inches; very gravelly sandy loam  
 2Bkq—22 to 60 inches; stratified very cobbly coarse sand to extremely gravelly loamy coarse sand

#### **Dissimilar Minor Component**

- Mooretown soils—5 percent

**Major Use**

Rangeland

**Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

**14—Coffee silt loam, 1 to 4 percent slopes****Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 5,400 to 5,600 feet  
*Mean annual precipitation:* 9 to 11 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 70 to 80 days

**Map Unit Composition**

*Coffee and similar soils:* 80 percent  
*Dissimilar minor components:* 20 percent

**Characteristics of Coffee Soil****Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Northwest  
*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium over basalt  
*Slope range:* 1 to 4 percent  
*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 24  
*Available water capacity (entire profile):* Moderate (about 5.2 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6c  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

**Typical profile**

A—0 to 7 inches; silt loam  
 Bk—7 to 25 inches; silt loam



Bkq—25 to 48 inches; silty clay loam  
 2R—48 to 58 inches; unweathered bedrock

### ***Dissimilar Minor Components***

- Bockston soils—5 percent
- Lesbut soils—5 percent
- Splittop soils—5 percent
- Tenno soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***15—Coffee-Nargon complex, 4 to 20 percent slopes***

### ***Map Unit Setting***

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 4,700 to 5,500 feet  
*Mean annual precipitation:* 9 to 11 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 80 to 110 days

### ***Map Unit Composition***

*Coffee and similar soils:* 45 percent  
*Nargon and similar soils:* 30 percent  
*Dissimilar minor components:* 25 percent

### ***Characteristics of Coffee Soil***

#### ***Setting***

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* South  
*Aspect (range):* East to southwest (clockwise)

#### ***Properties and qualities***

*Parent material:* Mixed alluvium over basalt  
*Slope range:* 4 to 20 percent  
*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 24

*Available water capacity (entire profile):* Moderate (about 5.2 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

### **Typical profile**

A—0 to 7 inches; silt loam

Bk—7 to 25 inches; silt loam

Bkq—25 to 48 inches; silty clay loam

2R—48 to 58 inches; unweathered bedrock

## ***Characteristics of Nargon Soil***

### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* South

*Aspect (range):* East to southwest (clockwise)

### **Properties and qualities**

*Parent material:* Mixed alluvium over basalt

*Slope range:* 4 to 20 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 1

*Available water capacity (entire profile):* Low (about 4.2 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

### **Typical profile**

A—0 to 5 inches; loam

Bk—5 to 15 inches; clay loam

Bkq—15 to 22 inches; stony loam

2R—22 to 32 inches; unweathered bedrock

## ***Dissimilar Minor Components***

- Atom soils—10 percent
- Deuce soils—5 percent
- Packmo soils—5 percent
- Rock outcrop—5 percent

## ***Major Use***

Rangeland

## ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

"Rangeland"  
 "Recreation"  
 "Wildlife Habitat"  
 "Engineering"  
 "Soil Properties"

## **16—Coffee-Nargon-Atom complex, 2 to 12 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 4,500 to 5,500 feet  
*Mean annual precipitation:* 9 to 11 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 70 to 110 days

### **Map Unit Composition**

*Coffee and similar soils:* 30 percent  
*Nargon and similar soils:* 30 percent  
*Atom and similar soils:* 15 percent  
*Dissimilar minor components:* 25 percent

### **Characteristics of Coffee Soil**

#### **Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* East  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium over basalt  
*Slope range:* 2 to 12 percent  
*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 24  
*Available water capacity (entire profile):* Moderate (about 6.9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

#### **Typical profile**

A—0 to 7 inches; silt loam  
 Bk—7 to 25 inches; silt loam  
 Bkq—25 to 48 inches; silty clay loam  
 2R—48 to 58 inches; unweathered bedrock

### ***Characteristics of Nargon Soil***

#### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium over basalt

*Slope range:* 2 to 12 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 1

*Available water capacity (entire profile):* Moderate (about 6.9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

#### **Typical profile**

A—0 to 5 inches; loam

Bk—5 to 15 inches; clay loam

Bkq—15 to 22 inches; stony loam

2R—22 to 32 inches; unweathered bedrock

### ***Characteristics of Atom Soil***

#### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 2 to 12 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 22

*Available water capacity (entire profile):* Moderate (about 7.1 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

**Typical profile**

A1—0 to 3 inches; silt loam

A2—3 to 10 inches; silty clay loam

Bkq—10 to 29 inches; silt loam

Bk—29 to 60 inches; silt loam

***Dissimilar Minor Components***

- Deuce soils—10 percent
- Packmo soils—5 percent
- Rock outcrop—5 percent
- Splittop soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***17—Cronks-Dacont complex, 25 to 60 percent slopes******Map Unit Setting***

*General landscape:* Foothills, mountains

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 7,500 feet

*Mean annual precipitation:* 11 to 13 inches

*Mean annual air temperature:* 40 to 43 degrees F

*Frost-free period:* 65 to 80 days

***Map Unit Composition***

*Cronks and similar soils:* 40 percent

*Dacont and similar soils:* 35 percent

*Dissimilar minor components:* 25 percent

***Characteristics of Cronks Soil*****Setting**

*Landform:* Hillslopes, mountain slopes

*Downslope shape:* Convex

*Across-slope shape:* Convex

*Aspect (representative):* Southeast

*Aspect (range):* Northeast to south (clockwise)

**Properties and qualities**

*Parent material:* Mixed colluvium

*Slope range:* 25 to 40 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 6.1 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

### **Typical profile**

A—0 to 7 inches; cobbly loam

Btk—7 to 19 inches; very cobbly clay loam

Bk—19 to 29 inches; very cobbly clay loam

C—29 to 60 inches; very cobbly clay loam

## ***Characteristics of Dacont Soil***

### **Setting**

*Landform:* Hillslopes, mountain slopes

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* Northeast to south (clockwise)

### **Properties and qualities**

*Parent material:* Slope alluvium and/or colluvium derived from rhyolite

*Slope range:* 25 to 60 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 4

*Available water capacity (entire profile):* Moderate (about 5.5 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

### **Typical profile**

A—0 to 4 inches; gravelly loam

Bt—4 to 10 inches; very gravelly loam

Bk1—10 to 26 inches; very gravelly loam

Bk2—26 to 40 inches; very gravelly loam

Bkq—40 to 60 inches; very cobbly loam

## ***Dissimilar Minor Components***

- Howcan soils—10 percent
- Justesen soils—10 percent
- Hutchley soils—3 percent
- Rock outcrop—2 percent

**Major Use**

Rangeland

**Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

**18—Crooked Creek silt loam, 0 to 2 percent slopes****Map Unit Setting**

*General landscape:* Basins  
*Major land resource area (MLRA):* 12  
*Elevation:* 4,800 to 4,900 feet  
*Mean annual precipitation:* 8 to 10 inches  
*Mean annual air temperature:* 44 to 46 degrees F  
*Frost-free period:* 80 to 100 days

**Map Unit Composition**

*Crooked Creek and similar soils:* 85 percent  
*Dissimilar minor components:* 15 percent

**Characteristics of Crooked Creek Soil****Setting**

*Landform:* Basin floors  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* East  
*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 0 to 2 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Poorly drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately low  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* About 36 to 72 inches (see Water Features table)  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Very high (about 11.4 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 4s

**Typical profile**

A1—0 to 6 inches; silt loam  
 A2—6 to 20 inches; silt loam

A3—20 to 50 inches; silty clay

C—50 to 60 inches; loam

### ***Dissimilar Minor Components***

- Blackfoot soils—10 percent
- Arco soils—5 percent

### ***Major Use***

Nonirrigated pastureland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***19—Cryoborolls-Rubble land-Rock outcrop complex, 30 to 80 percent slopes***

### ***Map Unit Setting***

*General landscape:* Foothills, mountains

*Major land resource area (MLRA):* 12

*Elevation:* 5,200 to 9,900 feet

*Mean annual precipitation:* 13 to 30 inches

*Mean annual air temperature:* 34 to 39 degrees F

*Frost-free period:* 10 to 60 days

### ***Map Unit Composition***

*Cryoborolls and similar soils:* 50 percent

*Rubble land:* 20 percent

*Rock outcrop:* 15 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of Cryoborolls***

#### ***Setting***

*Landform:* Hillslopes, mountain slopes

*Downslope shape:* Concave

*Across-slope shape:* Concave

*Aspect (representative):* North

*Aspect (range):* Northwest to northeast (clockwise)

#### ***Properties and qualities***

*Parent material:* Mixed colluvium

*Slope range:* 30 to 80 percent

*Depth to restrictive feature:* 20 to 80 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None



*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.2 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* STEEP LIMESTONE 12-20 CELE3/PSSPS-FEID (R012XY015ID)

### **Typical profile**

A—0 to 4 inches; very cobbly loam

Bw—4 to 54 inches; extremely cobbly loam

C—54 to 60 inches; extremely cobbly loamy coarse sand

### ***Characteristics of Rubble Land***

*Description:* Angular cobbles, stones, and boulders of varying geologic origin

*Position on landscape:* Base of rock outcroppings, cliffs, mountains, and very steep rock slopes

### ***Characteristics of Rock Outcrop***

*Description:* Bands of exposed bedrock of varying geologic origin

### ***Dissimilar Minor Components***

- Adek soils—5 percent
- Calcids—5 percent
- Povey soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***20—Darlington-Lesbut complex, 1 to 4 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,000 to 5,600 feet

*Mean annual precipitation:* 11 to 13 inches

*Mean annual air temperature:* 38 to 42 degrees F

*Frost-free period:* 70 to 90 days

### ***Map Unit Composition***

*Darlington and similar soils:* 60 percent

*Lesbut and similar soils:* 35 percent

*Dissimilar minor components:* 5 percent

### ***Characteristics of Darlington Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 20 to 40 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Sodium adsorption ratio about 1

*Available water capacity (entire profile):* Low (about 3.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6c

*Land capability subclass (irrigated):* 4s

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A—0 to 14 inches; very gravelly loam

Bt—14 to 21 inches; gravelly loam

Bw—21 to 33 inches; very gravelly loam

2Bk—33 to 60 inches; extremely gravelly loamy sand

### ***Characteristics of Lesbut Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 10 to 20 inches to strongly contrasting textural stratification

*Drainage class:* Somewhat excessively drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 2.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Land capability subclass (irrigated):* 4s

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A—0 to 3 inches; gravelly loam

Bw1—3 to 13 inches; gravelly loam

Bw2—13 to 19 inches; very gravelly sandy loam

2Bkq—19 to 60 inches; extremely gravelly loamy sand

***Dissimilar Minor Component***

- Lesbut soils, shallow to duripan—5 percent

***Major Uses***

Irrigated cropland, irrigated pastureland, rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***21—Denied access***

*Description:* Private land that soil scientists were not permitted to access to investigate the soils

***22—Deuce-Nargon-Lava flows complex, 2 to 12 percent slopes***

**Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,700 to 5,500 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 90 days

***Map Unit Composition***

*Deuce and similar soils:* 45 percent

*Nargon and similar soils:* 20 percent

*Lava flows:* 15 percent

*Dissimilar minor components:* 20 percent

***Characteristics of Deuce Soil***

**Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Mixed alluvium and/or loess over basalt

*Slope range:* 2 to 12 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 2.9 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SHALLOW STONY 8-12 ARTRW8/PSSP6 (R011BY009ID)

### **Typical profile**

A—0 to 2 inches; stony silt loam

Bk—2 to 11 inches; silt loam

Bkq—11 to 19 inches; silt loam

R—19 to 29 inches; unweathered bedrock

## ***Characteristics of Nargon Soil***

### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Mixed alluvium over basalt

*Slope range:* 2 to 12 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 1

*Available water capacity (entire profile):* Low (about 4.2 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

### **Typical profile**

A—0 to 5 inches; silt loam

Bk—5 to 15 inches; clay loam

Bkq—15 to 22 inches; stony loam

2R—22 to 32 inches; unweathered bedrock

***Characteristics of Lava Flows***

*Description:* Barren basalt, commonly lobate in shape

*Common features:* Fissures, pressure ridges, sinkholes, vertical cliffs

***Dissimilar Minor Components***

- Pingree soils—10 percent
- Coffee soils—5 percent
- Splittop soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***23—Deuce-Nargon-Lava flows complex, 12 to 20 percent slopes******Map Unit Setting***

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,700 to 5,500 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 90 days

***Map Unit Composition***

*Deuce and similar soils:* 35 percent

*Nargon and similar soils:* 20 percent

*Lava flows:* 20 percent

*Dissimilar minor components:* 25 percent

***Characteristics of Deuce Soil******Setting***

*Landform:* Lava plains

*Downslope shape:* Convex

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* Northeast to east (clockwise)

***Properties and qualities***

*Parent material:* Mixed alluvium and/or loess over basalt

*Slope range:* 12 to 20 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 2.9 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SHALLOW STONY 8-12 ARTRW8/PSSP6 (R011BY009ID)

### **Typical profile**

A—0 to 3 inches; stony silt loam

Bk—3 to 12 inches; cobbly loam

Bkq—12 to 19 inches; stony clay loam

R—19 to 29 inches; unweathered bedrock

## ***Characteristics of Nargon Soil***

### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* Northeast to east (clockwise)

### **Properties and qualities**

*Parent material:* Mixed alluvium over basalt

*Slope range:* 12 to 20 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 1

*Available water capacity (entire profile):* Low (about 3.8 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

### **Typical profile**

A—0 to 2 inches; silt loam

Bk—2 to 7 inches; clay loam

Bkq—7 to 21 inches; stony loam

2R—21 to 31 inches; unweathered bedrock

## ***Characteristics of Lava Flows***

*Description:* Barren basalt, commonly lobate in shape

*Common features:* Fissures, pressure ridges, sinkholes, vertical cliffs

## ***Dissimilar Minor Components***

- Coffee soils—10 percent
- Pingree soils—5 percent

- Techicknot soils—5 percent
- Splittop soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***24—Dickeypeak-Bigrant complex, 0 to 4 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 12  
*Elevation:* 5,200 to 5,700 feet  
*Mean annual precipitation:* 9 to 11 inches  
*Mean annual air temperature:* 37 to 39 degrees F  
*Frost-free period:* 35 to 55 days

### ***Map Unit Composition***

*Dickeypeak and similar soils:* 50 percent  
*Bigrant and similar soils:* 40 percent  
*Dissimilar minor components:* 10 percent

### ***Characteristics of Dickeypeak Soil***

#### **Setting**

*Landform:* Stream terraces  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* South  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 0 to 4 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Somewhat poorly drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* About 18 to 42 inches (see Water Features table)  
*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 20  
*Available water capacity (entire profile):* High (about 9.1 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated): 6s*

*Land capability subclass (irrigated): 4s*

*Ecological site: SALINE LOAMY 8-11 SAVE4/LECI4 (R012XY018ID)*

**Typical profile**

Akn—0 to 2 inches; silty clay loam

Bk—2 to 10 inches; loam

Bkg—10 to 50 inches; loam

BCg—50 to 70 inches; gravelly fine sandy loam

***Characteristics of Bigrant Soil*****Setting**

*Landform:* Stream terraces

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* South

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 4 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Poorly drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* Occasional (see Water Features table)

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* About 6 to 18 inches (see Water Features table)

*Salinity (maximum):* Slightly saline (about 6 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 8

*Available water capacity (entire profile):* Very high (about 11.7 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated): 4w*

*Land capability subclass (irrigated): 4w*

*Ecological site: DRY MEADOW PONE3-PHAL2 (R012XY023ID)*

**Typical profile**

Ak—0 to 8 inches; silt loam

Bkg1—8 to 23 inches; silt loam

Bkg2—23 to 35 inches; silty clay loam

Cg—35 to 60 inches; clay

***Dissimilar Minor Components***

- Dickeypeak soils, deep to sand and gravel—5 percent
- Bigrant soils, very gravelly subsoil—5 percent

***Major Use***

Irrigated pastureland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”



“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***25—Donkehill very gravelly loam, 20 to 50 percent slopes***

### **Map Unit Setting**

*General landscape:* Mountains, foothills

*Major land resource area (MLRA):* 12

*Elevation:* 6,500 to 7,500 feet

*Mean annual precipitation:* 13 to 15 inches

*Mean annual air temperature:* 34 to 36 degrees F

*Frost-free period:* 30 to 60 days

### **Map Unit Composition**

*Donkehill and similar soils:* 85 percent

*Dissimilar minor components:* 15 percent

### **Characteristics of Donkehill Soil**

#### **Setting**

*Landform:* Mountain slopes, hillslopes

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* North to east (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium over andesite

*Slope range:* 20 to 50 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.3 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID  
(R012XY002ID)

#### **Typical profile**

A—0 to 9 inches; very gravelly loam

Bt1—9 to 16 inches; very gravelly clay loam

Bt2—16 to 19 inches; very cobbly clay loam

R—19 to 29 inches; unweathered bedrock

### **Dissimilar Minor Components**

- Donkehill soils, moderately deep—5 percent
- Nurkey soils—5 percent
- Zeebar soils—5 percent

**Major Use**

Rangeland

**Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

**26—Dredge loam, 1 to 5 percent slopes****Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 5,500 to 6,600 feet  
*Mean annual precipitation:* 12 to 14 inches  
*Mean annual air temperature:* 39 to 43 degrees F  
*Frost-free period:* 60 to 80 days

**Map Unit Composition**

*Dredge and similar soils:* 80 percent  
*Dissimilar minor components:* 20 percent

**Characteristics of Dredge Soil****Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* East  
*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Alluvium derived from siltstone and/or limestone  
*Slope range:* 1 to 5 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 1  
*Available water capacity (entire profile):* Very high (about 10.2 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 4e  
*Land capability subclass (irrigated):* 4e  
*Ecological site:* LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)

**Typical profile**

A—0 to 12 inches; loam

Bw—12 to 46 inches; loam

BC—46 to 60 inches; loam

***Dissimilar Minor Components***

- Justesen soils, gravelly profile—10 percent
- McCarey soils—5 percent
- Techicknot soils—5 percent

***Major Uses***

Irrigated cropland, irrigated pastureland, rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***27—Elbow gravelly loam, 1 to 4 percent slopes******Map Unit Setting***

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,900 to 6,300 feet

*Mean annual precipitation:* 11 to 13 inches

*Mean annual air temperature:* 38 to 42 degrees F

*Frost-free period:* 70 to 80 days

***Map Unit Composition***

*Elbow and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

***Characteristics of Elbow Soil******Setting***

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* South

*Aspect (range):* All aspects

***Properties and qualities***

*Parent material:* Mixed alluvium

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 20 to 30 inches to indurated duripan

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 1

*Available water capacity (entire profile):* Very low (about 2.5 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6c

*Ecological site:* GRAVELLY 13-16 ARTR4/PSSPS-FEID (R012XY008ID)

### **Typical profile**

A—0 to 5 inches; gravelly loam

Bk—5 to 17 inches; gravelly loam

Bkq—17 to 23 inches; extremely gravelly sandy loam

2Bkqm—23 to 31 inches; cemented material

2B'kq1—31 to 35 inches; extremely cobbly coarse sandy loam

2B'kq2—35 to 60 inches; extremely cobbly sand

### ***Dissimilar Minor Components***

- Fulwider soils—10 percent
- Sanfelipe soils—10 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***28—Fallert gravelly loam, 2 to 8 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,500 to 6,400 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 70 to 80 days

### ***Map Unit Composition***

*Fallert and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

### ***Characteristics of Fallert Soil***

### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear  
*Aspect (representative):* Southwest  
*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Alluvium derived from limestone  
*Slope range:* 2 to 8 percent  
*Depth to restrictive feature:* 19 to 30 inches to strongly contrasting textural stratification  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* High  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Very low (about 1.3 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

### **Typical profile**

A—0 to 2 inches; gravelly loam  
 Bw—2 to 8 inches; gravelly loam  
 Bkq1—8 to 19 inches; very gravelly sandy loam  
 2Bkq2—19 to 60 inches; extremely gravelly loamy coarse sand

### ***Dissimilar Minor Components***

- Snowslide soils—10 percent
- Fulwider soils, high precipitation—5 percent
- Fulwider soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***29—Fallert gravelly loam, dry, 2 to 6 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 12  
*Elevation:* 5,400 to 5,800 feet  
*Mean annual precipitation:* 8 to 10 inches  
*Mean annual air temperature:* 41 to 45 degrees F  
*Frost-free period:* 70 to 80 days

### **Map Unit Composition**

*Fallert, dry, and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

### **Characteristics of Fallert Soil, Dry**

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 2 to 6 percent

*Depth to restrictive feature:* 19 to 30 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* High

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY  
(R012XY007ID)

#### **Typical profile**

A—0 to 3 inches; gravelly loam

Bw—3 to 12 inches; gravelly loam

Bkq1—12 to 19 inches; very gravelly sandy loam

2Bkq2—19 to 60 inches; extremely gravelly loamy coarse sand

### **Dissimilar Minor Components**

- Paint soils, dry—10 percent
- Snowslide soils—10 percent

### **Major Use**

Rangeland

### **Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

### **30—Fandow gravelly loam, 2 to 6 percent slopes**

#### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 6,400 feet

*Mean annual precipitation:* 8 to 11 inches

*Mean annual air temperature:* 36 to 38 degrees F

*Frost-free period:* 50 to 60 days

#### **Map Unit Composition**

*Fandow and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

#### **Characteristics of Fandow Soil**

##### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects

##### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 2 to 6 percent

*Depth to restrictive feature:* 10 to 19 inches to very strongly cemented duripan

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Very low (about 2.1 inches)

##### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7s

*Ecological site:* SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY  
(R012XY007ID)

##### **Typical profile**

A—0 to 6 inches; gravelly loam

Bk—6 to 19 inches; very gravelly sandy loam

2Bkqm—19 to 20 inches; cemented material

2Bkq—20 to 60 inches; extremely gravelly loamy sand

#### **Dissimilar Minor Components**

- Whitecloud soils—10 percent
- Zer soils—10 percent

#### **Major Use**

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***31—Fulwider complex, 2 to 25 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 12  
*Elevation:* 5,500 to 6,600 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Mean annual air temperature:* 40 to 43 degrees F  
*Frost-free period:* 75 to 95 days

### **Map Unit Composition**

*Fulwider, high precipitation, and similar soils:* 40 percent  
*Fulwider, low precipitation, and similar soils:* 30 percent  
*Fulwider and similar soils:* 15 percent  
*Dissimilar minor components:* 15 percent

### ***Characteristics of Fulwider Soil, High Precipitation***

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southwest  
*Aspect (range):* South to west (clockwise)

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone and/or quartzite  
*Slope range:* 2 to 25 percent  
*Depth to restrictive feature:* 10 to 20 inches to indurated duripan  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 7  
*Available water capacity (entire profile):* Very low (about 1.3 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A—0 to 7 inches; gravelly silt loam  
 Bkq—7 to 12 inches; very gravelly silt loam



2Bkqm—12 to 17 inches; cemented material  
2Bk—17 to 60 inches; extremely gravelly loam

### ***Characteristics of Fulwider Soil, Low Precipitation***

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southwest  
*Aspect (range):* South to west (clockwise)

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone and/or quartzite  
*Slope range:* 2 to 25 percent  
*Depth to restrictive feature:* 10 to 20 inches to indurated duripan  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 7  
*Available water capacity (entire profile):* Very low (about 1.3 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

#### **Typical profile**

A—0 to 3 inches; gravelly loam  
Bkq—3 to 14 inches; very gravelly loam  
2Bkqm—14 to 17 inches; cemented material  
2Bk—17 to 60 inches; extremely gravelly loam

### ***Characteristics of Fulwider Soil***

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southwest  
*Aspect (range):* South to west (clockwise)

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone and/or quartzite  
*Slope range:* 2 to 25 percent  
*Depth to restrictive feature:* 10 to 20 inches to indurated duripan  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 7  
*Available water capacity (entire profile):* Very low (about 1 inch)

**Interpretive groups**

*Land capability subclass (nonirrigated): 6e*

*Ecological site: SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY  
(R012XY007ID)*

**Typical profile**

A—0 to 2 inches; gravelly silt loam

Bw—2 to 6 inches; very gravelly loam

Bkq—6 to 10 inches; very gravelly loam

2Bkqm—10 to 15 inches; cemented material

2Bk—15 to 60 inches; extremely cobbly loamy sand

***Dissimilar Minor Components***

- Zer soils—10 percent
- Snowslide soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***32—Goosebury very gravelly loam, high precipitation, 5 to 20 percent slopes***

**Map Unit Setting**

*General landscape:* Valleys

*Major land resource area (MLRA):* 12

*Elevation:* 6,300 to 8,000 feet

*Mean annual precipitation:* 8 to 13 inches

*Mean annual air temperature:* 36 to 39 degrees F

*Frost-free period:* 30 to 60 days

**Map Unit Composition**

*Goosebury, high precipitation, and similar soils:* 90 percent

*Dissimilar minor components:* 10 percent

***Characteristics of Goosebury Soil, High Precipitation*****Setting**

*Landform:* Fan remnants, outwash fans

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* South

*Aspect (range):* Southeast to southwest (clockwise)

**Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 5 to 20 percent

*Depth to restrictive feature:* 40 to 60 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 3.7 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY  
(R012XY007ID)

### **Typical profile**

A—0 to 5 inches; very gravelly loam

Bkq1—5 to 11 inches; very gravelly loam

Bkq2—11 to 41 inches; extremely gravelly sandy loam

2Bkq3—41 to 60 inches; extremely gravelly loamy sand

### ***Dissimilar Minor Component***

- Goosebury soils, loamy substratum—10 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## **33—Goosebury very gravelly loam, 2 to 8 percent slopes**

### **Map Unit Setting**

*General landscape:* Valleys

*Major land resource area (MLRA):* 12

*Elevation:* 6,300 to 8,000 feet

*Mean annual precipitation:* 8 to 13 inches

*Mean annual air temperature:* 36 to 39 degrees F

*Frost-free period:* 40 to 60 days

### ***Map Unit Composition***

*Goosebury and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

### ***Characteristics of Goosebury Soil***

### **Setting**

*Landform:* Fan remnants, outwash fans

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 2 to 8 percent

*Depth to restrictive feature:* 40 to 60 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 2.9 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* COLD GRAVELLY 8-12 ARNO4/HECOC8 (R012XY040ID)

### **Typical profile**

A—0 to 5 inches; very gravelly loam

Bkq1—5 to 11 inches; very gravelly loam

Bkq2—11 to 41 inches; extremely gravelly sandy loam

2Bkq3—41 to 60 inches; extremely gravelly loamy sand

### ***Dissimilar Minor Components***

- Goosebury soils, loamy substratum—10 percent
- Fandow soils—10 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## **34—Goosebury complex, 10 to 35 percent slopes**

### **Map Unit Setting**

*General landscape:* Valleys

*Major land resource area (MLRA):* 12

*Elevation:* 6,500 to 7,500 feet

*Mean annual precipitation:* 9 to 13 inches

*Mean annual air temperature:* 36 to 40 degrees F

*Frost-free period:* 40 to 60 days

### **Map Unit Composition**

*Goosebury, low precipitation, and similar soils:* 45 percent

*Goosebury, high precipitation, and similar soils:* 35 percent

*Dissimilar minor components:* 20 percent

### **Characteristics of Goosebury Soil, Low Precipitation**

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* West

*Aspect (range):* Southwest to west (clockwise)

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 10 to 35 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.1 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* WINDSWEPT 8-11 ARFR4/POSE (R012XY006ID)

#### **Typical profile**

A—0 to 4 inches; gravelly loam

Bkq1—4 to 12 inches; gravelly loam

Bkq2—12 to 60 inches; extremely gravelly sandy loam

### **Characteristics of Goosebury Soil, High Precipitation**

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* West

*Aspect (range):* Southwest to west (clockwise)

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 10 to 35 percent

*Depth to restrictive feature:* 40 to 60 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 3.8 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY  
(R012XY007ID)

### **Typical profile**

A—0 to 8 inches; gravelly loam

Bkq1—8 to 24 inches; very gravelly loam

Bkq2—24 to 44 inches; very gravelly sandy loam

2Bkq3—44 to 60 inches; extremely gravelly loamy sand

### ***Dissimilar Minor Components***

- Fulwider soils—10 percent
- Zer soils—10 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***35—Hagenbarth-Howcan-Jonda association, 5 to 45 percent slopes***

### **Map Unit Setting**

*General landscape:* Foothills

*Major land resource area (MLRA):* 12

*Elevation:* 5,000 to 7,500 feet

*Mean annual precipitation:* 14 to 16 inches

*Mean annual air temperature:* 36 to 43 degrees F

*Frost-free period:* 40 to 80 days

### ***Map Unit Composition***

*Hagenbarth and similar soils:* 30 percent

*Howcan and similar soils:* 25 percent

*Jonda and similar soils:* 20 percent

*Dissimilar minor components:* 25 percent

### ***Characteristics of Hagenbarth Soil***

#### **Setting**

*Landform:* Hillslopes

*Downslope shape:* Concave

*Across-slope shape:* Concave

*Aspect (representative):* North

*Aspect (range):* Northwest to northeast (clockwise)

**Properties and qualities**

*Parent material:* Mixed colluvium and/or slope alluvium

*Slope range:* 5 to 45 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very high (about 12 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 16-22 ARTRV/FEID (R012XY021ID)

**Typical profile**

A1—0 to 9 inches; clay loam

A2—9 to 20 inches; loam

Bt—20 to 41 inches; clay loam

BC—41 to 60 inches; clay loam

***Characteristics of Howcan Soil*****Setting**

*Landform:* Hillslopes

*Downslope shape:* Concave

*Across-slope shape:* Linear

*Aspect (representative):* South

*Aspect (range):* Northeast to northwest (clockwise)

**Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium over latite and/or andesite

*Slope range:* 15 to 45 percent

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.2 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Ecological site:* LOAMY 12-16 ARTRV/FEID-PSSPS (R012XY012ID)

**Typical profile**

A1—0 to 4 inches; loam

A2—4 to 10 inches; extremely cobbly loam

Bt—10 to 38 inches; extremely stony loam

BC—38 to 54 inches; extremely stony sandy loam

R—54 to 64 inches; unweathered bedrock

### ***Characteristics of Jonda Soil***

#### **Setting**

*Landform:* Ridges

*Downslope shape:* Convex

*Across-slope shape:* Convex

*Aspect (representative):* North

*Aspect (range):* Northwest to northeast (clockwise)

#### **Properties and qualities**

*Parent material:* Mixed colluvium and/or slope alluvium

*Slope range:* 5 to 45 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 1

*Available water capacity (entire profile):* Low (about 3.7 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* CLAYEY SOUTH SLOPE 12-16 ARAR8/PSSPS (R012XY029ID)

#### **Typical profile**

A—0 to 4 inches; gravelly loam

Bt—4 to 21 inches; extremely cobbly clay loam

Bk—21 to 60 inches; extremely cobbly sandy loam

### ***Dissimilar Minor Components***

- Riverlost soils—15 percent
- Hutchley soils—10 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***36—Hal-Moonville association, 15 to 60 percent slopes***

### **Map Unit Setting**

*General landscape:* Mountains

*Major land resource area (MLRA):* 10



*Elevation:* 5,300 to 8,500 feet  
*Mean annual precipitation:* 14 to 18 inches  
*Mean annual air temperature:* 37 to 43 degrees F  
*Frost-free period:* 40 to 80 days

### **Map Unit Composition**

*Hal and similar soils:* 60 percent  
*Moonville and similar soils:* 25 percent  
*Dissimilar minor components:* 15 percent

### **Characteristics of Hal Soil**

#### **Setting**

*Landform:* Mountain slopes  
*Downslope shape:* Convex  
*Across-slope shape:* Convex  
*Aspect (representative):* North  
*Aspect (range):* Northwest to northeast (clockwise)

#### **Properties and qualities**

*Parent material:* Volcanic ash and cinders  
*Slope range:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to strongly contrasting textural stratification  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Moderate (about 6.8 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* NORTH SLOPE LOAMY 16-22 ARTRV/FEID (R010AY008ID)

#### **Typical profile**

A1—0 to 6 inches; gravelly loam  
A2—6 to 12 inches; gravelly loam  
Bw1—12 to 24 inches; gravelly loam  
Bw2—24 to 40 inches; gravelly loam  
2C—40 to 60 inches; extremely gravelly loamy coarse sand

### **Characteristics of Moonville Soil**

#### **Setting**

*Landform:* Mountain slopes  
*Downslope shape:* Concave  
*Across-slope shape:* Concave  
*Aspect (representative):* South  
*Aspect (range):* Northeast to northwest (clockwise)

#### **Properties and qualities**

*Parent material:* Volcanic ash and/or cinders  
*Slope range:* 15 to 30 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very high (about 12 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 12-16 ARTRV/FEID-PSSPS (R010AY004ID)

### **Typical profile**

A—0 to 7 inches; loam

Bw—7 to 31 inches; loam

Bk—31 to 60 inches; loam

### ***Dissimilar Minor Components***

- Huddle soils—10 percent
- Grassycone soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***37—Hondoho gravelly loam, 4 to 30 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 5,000 to 5,600 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 100 days

### ***Map Unit Composition***

*Hondoho and similar soils:* 85 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of Hondoho Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* North

*Aspect (range):* West to east (clockwise)

**Properties and qualities***Parent material:* Mixed alluvium and/or colluvium*Slope range:* 4 to 30 percent*Depth to restrictive feature:* None within a depth of 60 inches*Drainage class:* Well drained*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high*Flooding frequency:* None*Ponding frequency:* None*Seasonal high water table (minimum depth):* More than 72 inches*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)*Sodicity (maximum):* Sodium adsorption ratio about 3*Available water capacity (entire profile):* Moderate (about 6.4 inches)**Interpretive groups***Land capability subclass (nonirrigated):* 4e*Ecological site:* LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)**Typical profile**

A—0 to 6 inches; gravelly loam

Bw—6 to 10 inches; gravelly loam

Bk—10 to 60 inches; very gravelly loam

***Dissimilar Minor Components***

- Deuce soils—5 percent
- Nargon soils—5 percent
- Rock outcrop—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***38—Howcan-Hutchley-Rock outcrop complex, 15 to 60 percent slopes*****Map Unit Setting***General landscape:* Mountains*Major land resource area (MLRA):* 12*Elevation:* 6,000 to 7,500 feet*Mean annual precipitation:* 12 to 16 inches*Mean annual air temperature:* 38 to 42 degrees F*Frost-free period:* 60 to 80 days***Map Unit Composition****Howcan and similar soils:* 50 percent*Hutchley and similar soils:* 35 percent

*Rock outcrop:* 10 percent

*Dissimilar minor components:* 5 percent

### ***Characteristics of Howcan Soil***

#### **Setting**

*Landform:* Mountain slopes

*Downslope shape:* Concave

*Across-slope shape:* Concave

*Aspect (representative):* Southeast

*Aspect (range):* East to south (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium over latite and/or andesite

*Slope range:* 15 to 60 percent

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.2 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 12-16 ARTRV/FEID-PSSPS (R012XY012ID)

#### **Typical profile**

A1—0 to 4 inches; loam

A2—4 to 10 inches; extremely cobbly loam

Bt—10 to 38 inches; extremely stony loam

BC—38 to 54 inches; extremely stony sandy loam

R—54 to 64 inches; unweathered bedrock

### ***Characteristics of Hutchley Soil***

#### **Setting**

*Landform:* Ridges

*Downslope shape:* Linear

*Across-slope shape:* Convex

*Aspect (representative):* Southeast

*Aspect (range):* East to south (clockwise)

#### **Properties and qualities**

*Parent material:* Slope alluvium and/or colluvium over latite, andesite, and/or quartz-monzonite

*Slope range:* 15 to 35 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.3 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated): 6e*

*Ecological site: CLAYEY SOUTH SLOPE 12-16 ARAR8/PSSPS (R012XY029ID)*

**Typical profile**

A—0 to 4 inches; gravelly loam

Bt—4 to 11 inches; very cobbly clay loam

R—11 to 21 inches; unweathered bedrock

***Characteristics of Rock Outcrop***

*Description:* Areas or bands of exposed bedrock of varying geologic origin

***Dissimilar Minor Component***

- Hagenbarth soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***39—Howcan-Zeebar-Hutchley association, 15 to 60 percent slopes*****Map Unit Setting**

*General landscape:* Mountains

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 9,000 feet

*Mean annual precipitation:* 12 to 18 inches

*Mean annual air temperature:* 35 to 43 degrees F

*Frost-free period:* 10 to 80 days

***Map Unit Composition***

*Howcan and similar soils:* 35 percent

*Zeebar and similar soils:* 25 percent

*Hutchley and similar soils:* 20 percent

*Dissimilar minor components:* 20 percent

***Characteristics of Howcan Soil*****Setting**

*Landform:* Mountain slopes

*Downslope shape:* Concave

*Across-slope shape:* Concave

*Aspect (representative):* South

*Aspect (range):* Northeast to northwest (clockwise)

**Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium over latite and/or andesite

*Slope range:* 15 to 60 percent

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.2 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 12-16 ARTRV/FEID-PSSPS (R012XY012ID)

**Typical profile**

A1—0 to 4 inches; loam

A2—4 to 10 inches; extremely cobbly loam

Bt—10 to 38 inches; extremely stony loam

BC—38 to 54 inches; extremely stony sandy loam

R—54 to 64 inches; unweathered bedrock

***Characteristics of Zeebar Soil*****Setting**

*Landform:* Ridges

*Downslope shape:* Concave

*Across-slope shape:* Linear

*Aspect (representative):* North

*Aspect (range):* Northwest to northeast (clockwise)

**Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from quartzite

*Slope range:* 15 to 50 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.9 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 16-22 ARTRV/FEID (R012XY021ID)

**Typical profile**

A1—0 to 3 inches; gravelly loam

A2—3 to 19 inches; gravelly loam

Bt—19 to 41 inches; very gravelly clay loam

C—41 to 60 inches; extremely gravelly loam

### ***Characteristics of Hutchley Soil***

#### **Setting**

*Landform:* Ridges

*Downslope shape:* Convex

*Across-slope shape:* Convex

*Aspect (representative):* South

*Aspect (range):* Northeast to northwest (clockwise)

#### **Properties and qualities**

*Parent material:* Slope alluvium and/or colluvium over latite, andesite, and/or quartz-monzonite

*Slope range:* 15 to 35 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.3 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* CLAYEY SOUTH SLOPE 12-16 ARAR8/PSSPS (R012XY029ID)

#### **Typical profile**

A—0 to 4 inches; gravelly loam

Bt—4 to 11 inches; very cobbly clay loam

R—11 to 21 inches; unweathered bedrock

### ***Dissimilar Minor Components***

- Hagenbarth soils—10 percent
- Donkehill soils—5 percent
- Rock outcrop—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***40—Huddle-Moonville complex, 2 to 12 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 10, 11

*Elevation:* 4,800 to 6,000 feet  
*Mean annual precipitation:* 12 to 16 inches  
*Mean annual air temperature:* 40 to 45 degrees F  
*Frost-free period:* 70 to 90 days

### **Map Unit Composition**

*Huddle and similar soils:* 65 percent  
*Moonville and similar soils:* 20 percent  
*Dissimilar minor components:* 15 percent

### **Characteristics of Huddle Soil**

#### **Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* South  
*Aspect (range):* East to southwest (clockwise)

#### **Properties and qualities**

*Parent material:* Volcanic ash and cinders over basalt  
*Slope range:* 2 to 12 percent  
*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Sodium adsorption ratio about 4  
*Available water capacity (entire profile):* Moderate (about 7.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 3e  
*Ecological site:* LOAMY 12-16 ARTRT/LECI4 (R011BY007ID)

#### **Typical profile**

A—0 to 2 inches; gravelly loam  
 Bw1—2 to 7 inches; loam  
 Bw2—7 to 19 inches; loam  
 Bk1—19 to 39 inches; loam  
 Bk2—39 to 50 inches; loam  
 2R—50 to 60 inches; unweathered bedrock

### **Characteristics of Moonville Soil**

#### **Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* South  
*Aspect (range):* East to southwest (clockwise)

#### **Properties and qualities**

*Parent material:* Volcanic ash and cinders  
*Slope range:* 2 to 12 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high



*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very high (about 12 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 3e

*Ecological site:* LOAMY 12-16 ARTRV/FEID-PSSPS (R010AY004ID)

#### **Typical profile**

A—0 to 7 inches; loam

Bw—7 to 31 inches; loam

Bk—31 to 60 inches; loam

#### ***Dissimilar Minor Components***

- Splittop soils—10 percent
- Cinderhurst soils—5 percent

#### ***Major Use***

Rangeland

#### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

### ***41—Ike-Rock outcrop-Jimbee association, 10 to 80 percent slopes***

#### **Map Unit Setting**

*General landscape:* Foothills, mountains

*Major land resource area (MLRA):* 12

*Elevation:* 5,000 to 8,500 feet

*Mean annual precipitation:* 8 to 13 inches

*Mean annual air temperature:* 36 to 45 degrees F

*Frost-free period:* 50 to 80 days

#### **Map Unit Composition**

*Ike and similar soils:* 40 percent

*Rock outcrop:* 20 percent

*Jimbee and similar soils:* 15 percent

*Dissimilar minor components:* 25 percent

#### ***Characteristics of Ike Soil***

#### **Setting**

*Landform:* Hillslopes, mountain slopes

*Downslope shape:* Convex

*Across-slope shape:* Convex  
*Aspect (representative):* South  
*Aspect (range):* Northeast to northwest (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium derived from limestone  
*Slope range:* 10 to 80 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Very low (about 1.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

#### **Typical profile**

A—0 to 2 inches; gravelly loam  
 Bkq1—2 to 7 inches; very gravelly silt loam  
 Bkq2—7 to 18 inches; extremely cobbly silt loam  
 R—18 to 28 inches; unweathered bedrock

### ***Characteristics of Rock Outcrop***

*Description:* Areas or bands of exposed bedrock of varying geologic origin

### ***Characteristics of Jimbee Soil***

#### **Setting**

*Landform:* Depressions of ridges  
*Downslope shape:* Concave  
*Across-slope shape:* Convex  
*Aspect (representative):* North  
*Aspect (range):* Northwest to northeast (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone  
*Slope range:* 10 to 80 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Very low (about 1.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID  
 (R012XY002ID)

**Typical profile**

A—0 to 7 inches; gravelly loam

Bkq—7 to 17 inches; very gravelly loam

R—17 to 27 inches; unweathered bedrock

***Dissimilar Minor Components***

- Simeroi soils—15 percent
- Nitchly soils—5 percent
- Zeale soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***42—Ike-Simeroi-Rock outcrop complex, 25 to 60 percent slopes******Map Unit Setting***

*General landscape:* Foothills

*Major land resource area (MLRA):* 12

*Elevation:* 5,500 to 8,000 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 42 to 44 degrees F

*Frost-free period:* 70 to 80 days

***Map Unit Composition***

*Ike and similar soils:* 45 percent

*Simeroi and similar soils:* 30 percent

*Rock outcrop:* 10 percent

*Dissimilar minor components:* 15 percent

***Characteristics of Ike Soil*****Setting**

*Landform:* Ridges

*Downslope shape:* Convex

*Across-slope shape:* Convex

*Aspect (representative):* Southwest

*Aspect (range):* Southeast to west (clockwise)

**Properties and qualities**

*Parent material:* Colluvium derived from limestone

*Slope range:* 25 to 60 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.4 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

### **Typical profile**

A—0 to 2 inches; gravelly loam

Bkq1—2 to 7 inches; very gravelly silt loam

Bkq2—7 to 18 inches; extremely cobbly silt loam

R—18 to 28 inches; unweathered bedrock

## ***Characteristics of Simeroi Soil***

### **Setting**

*Landform:* Hillslopes

*Downslope shape:* Concave

*Across-slope shape:* Concave

*Aspect (representative):* Southwest

*Aspect (range):* Southeast to west (clockwise)

### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 25 to 60 percent

*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.4 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

### **Typical profile**

A—0 to 4 inches; gravelly silt loam

Bk—4 to 26 inches; very gravelly loam

Bkq—26 to 60 inches; very gravelly sandy loam

## ***Characteristics of Rock Outcrop***

*Description:* Areas or bands of exposed bedrock of varying geologic origin

## ***Dissimilar Minor Components***

- Nitchly soils—10 percent
- Zeale soils—5 percent

**Major Use**

Rangeland

**Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

### **43—Inel-Matheson-Rock outcrop complex, 10 to 45 percent slopes**

**Map Unit Setting**

*General landscape:* Foothills  
*Major land resource area (MLRA):* 11, 12  
*Elevation:* 4,800 to 5,500 feet  
*Mean annual precipitation:* 7 to 9 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 70 to 90 days

**Map Unit Composition**

*Inel and similar soils:* 35 percent  
*Matheson and similar soils:* 30 percent  
*Rock outcrop:* 25 percent  
*Dissimilar minor components:* 10 percent

**Characteristics of Inel Soil****Setting**

*Landform:* Hillslopes  
*Downslope shape:* Linear  
*Across-slope shape:* Convex  
*Aspect (representative):* Southwest  
*Aspect (range):* Southeast to west (clockwise)

**Properties and qualities**

*Parent material:* Colluvium derived from limestone  
*Slope range:* 20 to 45 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Very low (about 1.9 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SHALLOW BREAKS 8-13 JUOS/ARNO4/PSSPS  
(R012XY022ID)

**Typical profile**

A—0 to 2 inches; gravelly loam

Bw—2 to 16 inches; very gravelly loam

Bkq—16 to 19 inches; very gravelly sandy loam

R—19 to 29 inches; unweathered bedrock

***Characteristics of Matheson Soil*****Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* Southeast to west (clockwise)

**Properties and qualities**

*Parent material:* Mixed alluvium and/or eolian deposits over basalt

*Slope range:* 10 to 25 percent

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* High

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Moderate (about 5.2 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SANDY 8-14 ARTRT/HECOC8-ACHY (R011AY014ID)

**Typical profile**

A—0 to 6 inches; fine sandy loam

Bw—6 to 12 inches; sandy loam

Bk1—12 to 35 inches; sandy loam

Bk2—35 to 45 inches; gravelly sandy loam

2R—45 to 55 inches; unweathered bedrock

***Characteristics of Rock Outcrop***

*Description:* Areas or bands of exposed bedrock of varying geologic origin

***Dissimilar Minor Components***

- Nitchly soils—5 percent
- Zeale soils—5 percent

***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
“Recreation”  
“Wildlife Habitat”  
“Engineering”  
“Soil Properties”

## ***44—Inel-Slide-Rock outcrop complex, 10 to 45 percent slopes***

### **Map Unit Setting**

*General landscape:* Foothills  
*Major land resource area (MLRA):* 12  
*Elevation:* 5,200 to 6,500 feet  
*Mean annual precipitation:* 7 to 9 inches  
*Mean annual air temperature:* 41 to 44 degrees F  
*Frost-free period:* 70 to 80 days

### **Map Unit Composition**

*Inel and similar soils:* 55 percent  
*Slide and similar soils:* 15 percent  
*Rock outcrop:* 15 percent  
*Dissimilar minor components:* 15 percent

### **Characteristics of Inel Soil**

#### **Setting**

*Landform:* Hillslopes  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southwest  
*Aspect (range):* South to west (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium derived from limestone  
*Slope range:* 10 to 45 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Very low (about 2.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* GRAVELLY 7-10 ATCO/SPCR (R012XY041ID)

**Typical profile**

A—0 to 3 inches; gravelly silt loam  
 Bw—3 to 9 inches; gravelly silt loam  
 Bkq—9 to 19 inches; very cobbly loam  
 R—19 to 29 inches; unweathered bedrock

***Characteristics of Slide Soil*****Setting**

*Landform:* Hillslopes  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southwest  
*Aspect (range):* South to west (clockwise)

**Properties and qualities**

*Parent material:* Mixed slope alluvium  
*Slope range:* 10 to 45 percent  
*Depth to restrictive feature:* 5 to 10 inches to high content of carbonates  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Low (about 4.1 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8  
 (R012XY009ID)

**Typical profile**

A—0 to 3 inches; gravelly loam  
 Bk—3 to 10 inches; very gravelly sandy loam  
 Bkq—10 to 60 inches; extremely gravelly sandy loam

***Characteristics of Rock Outcrop***

*Description:* Areas or bands of exposed bedrock of varying geologic origin

***Dissimilar Minor Components***

- Slide soils, moderately deep—10 percent
- McCaleb soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”



## 45—Jimbee-Rock outcrop-lke association, 10 to 90 percent slopes

### Map Unit Setting

*General landscape:* Foothills, mountains

*Major land resource area (MLRA):* 12

*Elevation:* 5,500 to 8,500 feet

*Mean annual precipitation:* 8 to 13 inches

*Mean annual air temperature:* 36 to 45 degrees F

*Frost-free period:* 50 to 80 days

### Map Unit Composition

*Jimbee and similar soils:* 40 percent

*Rock outcrop:* 20 percent

*Ike and similar soils:* 15 percent

*Dissimilar minor components:* 25 percent

### Characteristics of Jimbee Soil

#### Setting

*Landform:* Hillslopes, mountain slopes

*Downslope shape:* Convex

*Across-slope shape:* Convex

*Aspect (representative):* North

*Aspect (range):* Northwest to northeast (clockwise)

#### Properties and qualities

*Parent material:* Colluvium and/or slope alluvium derived from limestone

*Slope range:* 10 to 90 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.6 inches)

#### Interpretive groups

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID  
(R012XY002ID)

#### Typical profile

A—0 to 7 inches; gravelly loam

Bkq—7 to 17 inches; very gravelly loam

R—17 to 27 inches; unweathered bedrock

### Characteristics of Rock Outcrop

*Description:* Areas or bands of exposed bedrock of varying geologic origin

### Characteristics of Ike Soil

#### Setting

*Landform:* Ridges

*Downslope shape:* Concave

*Across-slope shape:* Convex  
*Aspect (representative):* South  
*Aspect (range):* Northeast to northwest (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium derived from limestone  
*Slope range:* 10 to 90 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Very low (about 1.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

#### **Typical profile**

A—0 to 2 inches; gravelly loam  
 Bkq1—2 to 7 inches; very gravelly silt loam  
 Bkq2—7 to 18 inches; extremely cobbly silt loam  
 R—18 to 28 inches; unweathered bedrock

#### ***Dissimilar Minor Components***

- Adek soils—10 percent
- Nitchly soils—5 percent
- Skibo soils—5 percent
- Zeale soils—5 percent

#### ***Major Use***

Rangeland

#### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

### ***46—Jimbee-Skibo-Ike association, 20 to 60 percent slopes***

#### **Map Unit Setting**

*General landscape:* Foothills, mountains  
*Major land resource area (MLRA):* 12  
*Elevation:* 6,000 to 9,000 feet

*Mean annual precipitation:* 8 to 18 inches

*Mean annual air temperature:* 32 to 45 degrees F

*Frost-free period:* 30 to 80 days

### **Map Unit Composition**

*Jimbee and similar soils:* 40 percent

*Skibo and similar soils:* 30 percent

*Ike and similar soils:* 15 percent

*Dissimilar minor components:* 15 percent

### **Characteristics of Jimbee Soil**

#### **Setting**

*Landform:* Hillslopes, mountain slopes

*Downslope shape:* Convex

*Across-slope shape:* Convex

*Aspect (representative):* North

*Aspect (range):* Northwest to northeast (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone

*Slope range:* 20 to 60 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

#### **Typical profile**

A—0 to 5 inches; gravelly loam

Bkq—5 to 17 inches; very gravelly loam

R—17 to 27 inches; unweathered bedrock

### **Characteristics of Skibo Soil**

#### **Setting**

*Landform:* Mountain slopes, hillslopes

*Downslope shape:* Concave

*Across-slope shape:* Convex

*Aspect (representative):* North

*Aspect (range):* Northwest to northeast (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium derived from limestone

*Slope range:* 20 to 60 percent

*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Moderate (about 5.4 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* STEEP LIMESTONE 12-20 CELE3/PSSPS-FEID  
(R012XY015ID)

### **Typical profile**

A—0 to 4 inches; gravelly loam

Bk1—4 to 31 inches; very gravelly loam

Bk2—31 to 60 inches; extremely gravelly loam

## ***Characteristics of Ike Soil***

### **Setting**

*Landform:* Mountain slopes, hillslopes

*Downslope shape:* Linear

*Across-slope shape:* Convex

*Aspect (representative):* South

*Aspect (range):* Northeast to northwest (clockwise)

### **Properties and qualities**

*Parent material:* Colluvium derived from limestone

*Slope range:* 20 to 60 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.4 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

### **Typical profile**

A—0 to 2 inches; gravelly loam

Bkq1—2 to 7 inches; very gravelly silt loam

Bkq2—7 to 18 inches; extremely cobbly silt loam

R—18 to 28 inches; unweathered bedrock

## ***Dissimilar Minor Components***

- Nitchly soils—5 percent
- Rock outcrop—5 percent
- Zeale soils—5 percent

## ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***47—Justesen-Drage complex, 1 to 20 percent slopes***

### **Map Unit Setting**

*General landscape:* Foothills  
*Major land resource area (MLRA):* 12  
*Elevation:* 5,800 to 7,000 feet  
*Mean annual precipitation:* 12 to 16 inches  
*Mean annual air temperature:* 40 to 45 degrees F  
*Frost-free period:* 60 to 80 days

### **Map Unit Composition**

*Justesen and similar soils:* 45 percent  
*Drage and similar soils:* 40 percent  
*Dissimilar minor components:* 15 percent

### **Characteristics of Justesen Soil**

#### **Setting**

*Landform:* Hillslopes  
*Geomorphic position (two-dimensional):* Toeslopes  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* Northeast to southwest (clockwise)

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 1 to 20 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* High (about 9.8 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 3e  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)

**Typical profile**

A—0 to 10 inches; loam

Bt—10 to 25 inches; loam

Bk—25 to 60 inches; fine sandy loam

***Characteristics of Drage Soil*****Setting**

*Landform:* Hillslopes

*Geomorphic position (two-dimensional):* Toeslopes

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* Northeast to southwest (clockwise)

**Properties and qualities**

*Parent material:* Mixed colluvium

*Slope range:* 5 to 20 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 5.4 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 4e

*Ecological site:* LOAMY 12-16 ARTRV/FEID-PSSPS (R012XY012ID)

**Typical profile**

A—0 to 6 inches; gravelly loam

BA—6 to 15 inches; gravelly clay loam

Bt—15 to 30 inches; very cobbly clay loam

Bk1—30 to 43 inches; extremely cobbly clay loam

Bk2—43 to 60 inches; extremely cobbly loam

***Dissimilar Minor Components***

- Dredge soils—10 percent
- Soen soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## **48—Ketchum-Povey complex, 30 to 60 percent slopes**

### **Map Unit Setting**

*General landscape:* Mountains

*Major land resource area (MLRA):* 10

*Elevation:* 6,500 to 8,500 feet

*Mean annual precipitation:* 18 to 22 inches

*Mean annual air temperature:* 36 to 40 degrees F

*Frost-free period:* 50 to 60 days

### **Map Unit Composition**

*Ketchum and similar soils:* 50 percent

*Povey and similar soils:* 30 percent

*Dissimilar minor components:* 20 percent

### **Characteristics of Ketchum Soil**

#### **Setting**

*Landform:* Mountain slopes

*Downslope shape:* Convex

*Across-slope shape:* Convex

*Aspect (representative):* Northwest

*Aspect (range):* West to north (clockwise)

#### **Properties and qualities**

*Parent material:* Mixed colluvium

*Slope range:* 30 to 60 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 6.3 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Plant community class:* DOUGLAS-FIR 22+ PSME/SYORZ (R043AY001ID)

#### **Typical profile**

Oi—0 to 1 inch; slightly decomposed plant material

A1—1 to 5 inches; gravelly loam

A2—5 to 18 inches; very gravelly loam

B—18 to 50 inches; very gravelly sandy loam

C—50 to 64 inches; extremely gravelly coarse sandy loam

### **Characteristics of Povey Soil**

#### **Setting**

*Landform:* Mountain slopes

*Downslope shape:* Concave

*Across-slope shape:* Concave

*Aspect (representative):* Northwest

*Aspect (range):* West to north (clockwise)

### **Properties and qualities**

*Parent material:* Mixed alluvium and/or colluvium over igneous, sedimentary, and/or metamorphic rock

*Slope range:* 30 to 60 percent

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 2.9 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* NORTH SLOPE LOAMY 16-22 ARTRV/FEID (R010AY008ID)

### **Typical profile**

A—0 to 6 inches; gravelly loam

Bw1—6 to 12 inches; very gravelly loam

Bw2—12 to 55 inches; extremely cobbly sandy loam

R—55 to 65 inches; unweathered bedrock

### ***Dissimilar Minor Components***

- Dollarhide soils—10 percent
- Rock outcrop—5 percent
- Vitale soils—5 percent

### ***Major Uses***

Rangeland, woodland (Ketchum soil)

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***49—Kimama silt loam, 0 to 2 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,500 to 4,700 feet

*Mean annual precipitation:* 8 to 10 inches



*Mean annual air temperature:* 47 to 49 degrees F

*Frost-free period:* 100 to 120 days

### **Map Unit Composition**

*Kimama and similar soils:* 90 percent

*Dissimilar minor components:* 10 percent

### **Characteristics of Kimama Soil**

#### **Setting**

*Landform:* Depressions, drainageways

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium and/or loess

*Slope range:* 0 to 2 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Very high (about 12 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6c

*Land capability subclass (irrigated):* 2c

#### **Typical profile**

A—0 to 8 inches; silt loam

Bt—8 to 34 inches; silt loam

Btk—34 to 60 inches; silt loam

### **Dissimilar Minor Component**

- *Kimama soils, noncalcareous subsoil*—10 percent

### **Major Use**

Irrigated cropland

### **Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## **50—Klug very gravelly loam, 5 to 15 percent slopes**

### **Map Unit Setting**

*General landscape:* Mountains

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 7,000 feet

*Mean annual precipitation:* 13 to 16 inches

*Mean annual air temperature:* 36 to 38 degrees F

*Frost-free period:* 50 to 60 days

### **Map Unit Composition**

*Klug and similar soils:* 90 percent

*Dissimilar minor components:* 10 percent

### **Characteristics of Klug Soil**

#### **Setting**

*Landform:* Mountain slopes

*Geomorphic position (two-dimensional):* Toeslopes

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Colluvium derived from granite and/or quartzite

*Slope range:* 5 to 15 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.8 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 12-16 ARTRV/FEID-PSSPS (R012XY012ID)

#### **Typical profile**

A—0 to 13 inches; very gravelly loam

Bw1—13 to 24 inches; very gravelly loam

Bw2—24 to 37 inches; very gravelly loam

C—37 to 60 inches; extremely gravelly loam

### **Dissimilar Minor Component**

- Howcan soils—10 percent

### **Major Use**

Rangeland

### **Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

"Rangeland"  
 "Recreation"  
 "Wildlife Habitat"  
 "Engineering"  
 "Soil Properties"

## **51—Klug-Parvis complex, 20 to 60 percent slopes**

### **Map Unit Setting**

*General landscape:* Mountains, foothills  
*Major land resource area (MLRA):* 12  
*Elevation:* 6,000 to 8,500 feet  
*Mean annual precipitation:* 13 to 16 inches  
*Mean annual air temperature:* 36 to 38 degrees F  
*Frost-free period:* 50 to 60 days

### **Map Unit Composition**

*Klug and similar soils:* 60 percent  
*Parvis and similar soils:* 20 percent  
*Dissimilar minor components:* 20 percent

### **Characteristics of Klug Soil**

#### **Setting**

*Landform:* Mountain slopes, hillslopes  
*Downslope shape:* Convex  
*Across-slope shape:* Convex  
*Aspect (representative):* Northeast  
*Aspect (range):* Northwest to east (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium derived from granite and/or quartzite  
*Slope range:* 20 to 60 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Low (about 4.8 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID  
 (R012XY002ID)

#### **Typical profile**

A—0 to 13 inches; very gravelly loam  
 Bw1—13 to 24 inches; very gravelly loam  
 Bw2—24 to 37 inches; very gravelly loam  
 C—37 to 60 inches; extremely gravelly loam

### ***Characteristics of Parvis Soil***

#### **Setting**

*Landform:* Hillslopes, mountain slopes

*Downslope shape:* Concave

*Across-slope shape:* Concave

*Aspect (representative):* Northeast

*Aspect (range):* Northwest to east (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from siltstone

*Slope range:* 35 to 60 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 5.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* LOAMY 16-22 ARTRV/FEID (R012XY021ID)

#### **Typical profile**

A1—0 to 8 inches; gravelly loam

A2—8 to 28 inches; very flaggy loam

Bt1—28 to 43 inches; extremely flaggy clay loam

Bt2—43 to 60 inches; extremely flaggy clay loam

#### ***Dissimilar Minor Components***

- Blackspar soils—5 percent
- Dollarhide soils—5 percent
- Rock outcrop—5 percent
- Vitale soils—5 percent

#### ***Major Use***

Rangeland

#### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

### ***52—Lag gravelly loam, 40 to 70 percent slopes***

#### **Map Unit Setting**

*General landscape:* Mountains

*Major land resource area (MLRA):* 12

*Elevation:* 6,500 to 9,300 feet  
*Mean annual precipitation:* 20 to 24 inches  
*Mean annual air temperature:* 35 to 38 degrees F  
*Frost-free period:* 40 to 70 days

### **Map Unit Composition**

*Lag and similar soils:* 90 percent  
*Dissimilar minor components:* 10 percent

### **Characteristics of Lag Soil**

#### **Setting**

*Landform:* Mountain slopes  
*Downslope shape:* Convex  
*Across-slope shape:* Convex  
*Aspect (representative):* Northwest  
*Aspect (range):* Southwest to north (clockwise)

#### **Properties and qualities**

*Parent material:* Mixed colluvium  
*Slope range:* 40 to 70 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* High  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Low (about 4.2 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Plant community class:* DOUGLAS-FIR STONY 22+ PSME/CARU (R043AY005ID)

#### **Typical profile**

Oi—0 to 1 inch; slightly decomposed plant material  
A—1 to 14 inches; gravelly loam  
Bw1—14 to 25 inches; very gravelly loam  
Bw2—25 to 60 inches; extremely gravelly sandy loam

### **Dissimilar Minor Components**

- Hagenbarth soils—5 percent
- Rock outcrop—5 percent

### **Major Use**

Rangeland

### **Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
“Recreation”  
“Wildlife Habitat”  
“Engineering”  
“Soil Properties”

## **53—Lavacreek-Dollarhide complex, 15 to 60 percent slopes**

### **Map Unit Setting**

*General landscape:* Mountains  
*Major land resource area (MLRA):* 12  
*Elevation:* 7,000 to 9,300 feet  
*Mean annual precipitation:* 16 to 24 inches  
*Mean annual air temperature:* 36 to 41 degrees F  
*Frost-free period:* 30 to 60 days

### **Map Unit Composition**

*Lavacreek and similar soils:* 65 percent  
*Dollarhide and similar soils:* 25 percent  
*Dissimilar minor components:* 10 percent

### **Characteristics of Lavacreek Soil**

#### **Setting**

*Landform:* Mountain slopes  
*Downslope shape:* Concave  
*Across-slope shape:* Concave  
*Aspect (representative):* Northeast  
*Aspect (range):* North to east (clockwise)

#### **Properties and qualities**

*Parent material:* Volcanic ash and/or eolian deposits mixed with colluvium derived from sandstone, conglomerate, siltstone, and/or quartzite  
*Slope range:* 15 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Moderate (about 6.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* SUBALPINE SLOPE LOAMY 20+ ARTRS2/FEID (R012XY024ID)

#### **Typical profile**

A—0 to 10 inches; very cobbly silt loam  
 Bw1—10 to 19 inches; very cobbly silt loam  
 Bw2—19 to 36 inches; extremely cobbly loam  
 C—36 to 59 inches; extremely cobbly sandy loam  
 2R—59 to 69 inches; unweathered bedrock

### **Characteristics of Dollarhide Soil**

#### **Setting**

*Landform:* Ridges, hillslopes, mountain slopes  
*Downslope shape:* Convex  
*Across-slope shape:* Convex

*Aspect (representative):* Northeast

*Aspect (range):* North to east (clockwise)

### **Properties and qualities**

*Parent material:* Colluvium and residuum derived from siltstone, conglomerate, sandstone, granodiorite, and/or quartzite

*Slope range:* 15 to 60 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* High

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.2 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SHALLOW SUBALPINE 16+ ARART/FEID (R012XY025ID)

### **Typical profile**

A—0 to 8 inches; very gravelly silt loam

Bw—8 to 13 inches; very gravelly loam

R1—13 to 17 inches; unweathered bedrock

R2—17 to 27 inches; unweathered bedrock

### ***Dissimilar Minor Components***

- Blackspar soils—5 percent
- Vitale soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***54—Lavacreek-Dollarhide-Grassycone complex, 30 to 60 percent slopes***

### **Map Unit Setting**

*General landscape:* Mountains

*Major land resource area (MLRA):* 10

*Elevation:* 6,000 to 8,500 feet

*Mean annual precipitation:* 16 to 24 inches

*Mean annual air temperature:* 36 to 41 degrees F

*Frost-free period:* 30 to 60 days

### **Map Unit Composition**

*Lavacreek and similar soils:* 45 percent  
*Dollarhide and similar soils:* 20 percent  
*Grassycone and similar soils:* 20 percent  
*Dissimilar minor components:* 15 percent

### **Characteristics of Lavacreek Soil**

#### **Setting**

*Landform:* Mountain slopes  
*Downslope shape:* Concave  
*Across-slope shape:* Concave  
*Aspect (representative):* North  
*Aspect (range):* Northwest to northeast (clockwise)

#### **Properties and qualities**

*Parent material:* Volcanic ash and/or eolian deposits mixed with colluvium derived from sandstone, conglomerate, siltstone, and/or quartzite  
*Slope range:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Moderate (about 6.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* NORTH SLOPE LOAMY 16-22 ARTRV/FEID (R010AY008ID)

#### **Typical profile**

A—0 to 10 inches; very cobbly silt loam  
 Bw1—10 to 19 inches; very cobbly silt loam  
 Bw2—19 to 36 inches; extremely cobbly loam  
 C—36 to 59 inches; extremely cobbly sandy loam  
 2R—59 to 69 inches; unweathered bedrock

### **Characteristics of Dollarhide Soil**

#### **Setting**

*Landform:* Mountain slopes  
*Downslope shape:* Convex  
*Across-slope shape:* Convex  
*Aspect (representative):* North  
*Aspect (range):* Northwest to northeast (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and residuum derived from siltstone, conglomerate, sandstone, granodiorite, and/or quartzite  
*Slope range:* 30 to 60 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* High  
*Flooding frequency:* None



*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.5 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7s

*Ecological site:* CLAYEY NORTH 16-20 ARAR8/FEID (R010AY011ID)

### **Typical profile**

A—0 to 8 inches; very gravelly silt loam

Bw—8 to 13 inches; very gravelly loam

R1—13 to 17 inches; unweathered bedrock

R2—17 to 27 inches; unweathered bedrock

## ***Characteristics of Grassycone Soil***

### **Setting**

*Landform:* Mountain slopes

*Downslope shape:* Linear

*Across-slope shape:* Convex

*Aspect (representative):* North

*Aspect (range):* Northwest to northeast (clockwise)

### **Properties and qualities**

*Parent material:* Volcanic ash and cinders over colluvium

*Slope range:* 30 to 60 percent

*Depth to restrictive feature:* 40 to 60 inches to abrupt textural change

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.5 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* QUAKING ASPEN 20+ POTR5 (R010AY016ID)

### **Typical profile**

Oi—0 to 1 inch; slightly decomposed plant material

A1—1 to 3 inches; fine sandy loam

A2—3 to 9 inches; gravelly sandy loam

Bw—9 to 57 inches; gravelly fine sandy loam

2C—57 to 65 inches; very cobbly loam

## ***Dissimilar Minor Components***

- Ketchum soils—5 percent
- Rock outcrop—5 percent
- Vitale soils—5 percent

## ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Crops and Pasture”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***55—Lavacreek-Vitale association, 30 to 60 percent slopes***

### **Map Unit Setting**

*General landscape:* Mountains  
*Major land resource area (MLRA):* 10  
*Elevation:* 6,000 to 8,500 feet  
*Mean annual precipitation:* 12 to 24 inches  
*Mean annual air temperature:* 36 to 43 degrees F  
*Frost-free period:* 30 to 90 days

### **Map Unit Composition**

*Lavacreek and similar soils:* 45 percent  
*Vitale and similar soils:* 35 percent  
*Dissimilar minor components:* 20 percent

### **Characteristics of Lavacreek Soil**

#### **Setting**

*Landform:* Mountain slopes  
*Downslope shape:* Concave  
*Across-slope shape:* Concave  
*Aspect (representative):* North  
*Aspect (range):* Northwest to northeast (clockwise)

#### **Properties and qualities**

*Parent material:* Volcanic ash and/or eolian deposits mixed with colluvium derived from sandstone, conglomerate, siltstone, and/or quartzite  
*Slope range:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Moderate (about 6.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* NORTH SLOPE LOAMY 16-22 ARTRV/FEID (R010AY008ID)

#### **Typical profile**

A—0 to 10 inches; very cobbly silt loam  
 Bw1—10 to 19 inches; very cobbly silt loam

Bw2—19 to 36 inches; extremely cobbly loam  
C—36 to 59 inches; extremely cobbly sandy loam  
2R—59 to 69 inches; unweathered bedrock

### ***Characteristics of Vitale Soil***

#### **Setting**

*Landform:* Mountain slopes  
*Downslope shape:* Convex  
*Across-slope shape:* Convex  
*Aspect (representative):* South  
*Aspect (range):* Northeast to northwest (clockwise)

#### **Properties and qualities**

*Parent material:* Slope alluvium and/or colluvium derived from welded tuff, rhyolite, quartz monzonite, sandstone, conglomerate, and/or siltstone  
*Slope range:* 30 to 60 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Very low (about 2.1 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* SOUTH SLOPE GRAVELLY 12-16 ARTRV/PSSPS (R010AY009ID)

#### **Typical profile**

A1—0 to 3 inches; very cobbly loam  
A2—3 to 10 inches; very cobbly loam  
Bt1—10 to 24 inches; very cobbly clay loam  
Bt2—24 to 33 inches; very cobbly loam  
R—33 to 43 inches; unweathered bedrock

### ***Dissimilar Minor Components***

- Dollarhide soils—10 percent
- Blackspar soils—5 percent
- Rock outcrop—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
“Recreation”  
“Wildlife Habitat”  
“Engineering”  
“Soil Properties”

## **56—Lava flows**

*Description:* Barren basalt, commonly lobate in shape

*Common features:* Fissures, pressure ridges, sinkholes, vertical cliffs

## **57—Lava flows-Cinderhurst complex, 2 to 15 percent slopes**

### **Map Unit Setting**

*Major land resource area (MLRA):* 11

*Elevation:* 4,800 to 6,000 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 60 to 90 days

### **Map Unit Composition**

*Lava flows:* 70 percent

*Cinderhurst and similar soils:* 20 percent

*Dissimilar minor components:* 10 percent

### **Characteristics of Lava Flows**

*Description:* Barren basalt, commonly lobate in shape

*Common features:* Fissures, pressure ridges, sinkholes, vertical cliffs

### **Characteristics of Cinderhurst Soil**

#### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Eolian deposits and tephra over basalt

*Slope range:* 2 to 15 percent

*Depth to restrictive feature:* 1 to 10 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.3 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7s

*Ecological site:* LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)

#### **Typical profile**

A—0 to 3 inches; extremely cobbly silt loam

Bw—3 to 8 inches; very cobbly silt loam

2R—8 to 18 inches; unweathered bedrock

***Dissimilar Minor Component***

- Cinderhurst soils, moderately deep—10 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***58—Lava flows-Pingree complex, 0 to 8 percent slopes******Map Unit Setting***

*Major land resource area (MLRA):* 11

*Elevation:* 4,500 to 5,400 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 44 to 46 degrees F

*Frost-free period:* 80 to 110 days

***Map Unit Composition***

*Lava flows:* 60 percent

*Pingree and similar soils:* 35 percent

*Dissimilar minor components:* 5 percent

***Characteristics of Lava Flows***

*Description:* Barren basalt, commonly lobate in shape

*Common features:* Fissures, pressure ridges, sinkholes, vertical cliffs

*Slope range:* 0 to 8 percent

***Characteristics of Pingree Soil******Setting***

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

***Properties and qualities***

*Parent material:* Loess over basalt

*Slope range:* 0 to 4 percent

*Depth to restrictive feature:* 5 to 10 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.5 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7s

*Ecological site:* FRACTURED LOAMY 8-16 ARTRW8/PSSPS (R011BY005ID)

### **Typical profile**

A—0 to 2 inches; gravelly silt loam

Bw1—2 to 7 inches; gravelly silt loam

Bw2—7 to 9 inches; cobbly silt loam

2R—9 to 19 inches; unweathered bedrock

### ***Dissimilar Minor Components***

- Deuce soils—3 percent
- Nargon soils—2 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***59—Leatherman-Adek association, 5 to 50 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 6,300 to 8,000 feet

*Mean annual precipitation:* 12 to 16 inches

*Mean annual air temperature:* 36 to 42 degrees F

*Frost-free period:* 40 to 60 days

### ***Map Unit Composition***

*Leatherman and similar soils:* 45 percent

*Adek, dry, and similar soils:* 20 percent

*Adek and similar soils:* 15 percent

*Dissimilar minor components:* 20 percent

### ***Characteristics of Leatherman Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Concave

*Across-slope shape:* Concave

*Aspect (representative):* West

*Aspect (range):* Southwest to northwest (clockwise)

**Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 15 to 25 percent

*Depth to restrictive feature:* 9 to 20 inches to indurated duripan

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 10

*Available water capacity (entire profile):* Very low (about 1.2 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

**Typical profile**

A1—0 to 3 inches; gravelly loam

A2—3 to 8 inches; very gravelly loam

Bk—8 to 12 inches; very gravelly loam

2Bkqm—12 to 17 inches; cemented material

2Bkq—17 to 60 inches; extremely gravelly loamy coarse sand

***Characteristics of Adek Soil, Dry*****Setting**

*Landform:* Ridges

*Downslope shape:* Convex

*Across-slope shape:* Convex

*Aspect (representative):* West

*Aspect (range):* Southwest to northwest (clockwise)

**Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone

*Slope range:* 5 to 20 percent

*Depth to restrictive feature:* 2 to 7 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Very slightly saline (about 2 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 4

*Available water capacity (entire profile):* Low (about 4.6 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* WINDSWEPT 8-11 ARFR4/POSE (R012XY006ID)

**Typical profile**

A—0 to 7 inches; gravelly loam

2Bkq1—7 to 41 inches; extremely gravelly loam

2Bkq2—41 to 60 inches; extremely cobbly loam

### ***Characteristics of Adek Soil***

#### **Setting**

*Landform:* Ridges

*Downslope shape:* Convex

*Across-slope shape:* Convex

*Aspect (representative):* West

*Aspect (range):* Southwest to northwest (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone

*Slope range:* 20 to 50 percent

*Depth to restrictive feature:* 2 to 7 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Very slightly saline (about 2 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 4

*Available water capacity (entire profile):* Low (about 4.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY  
(R012XY007ID)

#### **Typical profile**

A—0 to 2 inches; gravelly loam

2Bkq1—2 to 17 inches; extremely gravelly loam

2Bkq2—17 to 60 inches; extremely cobbly loam

#### ***Dissimilar Minor Components***

- Simeroi soils—10 percent
- Leatherman soils, bedrock substratum—5 percent
- McCaleb soils—5 percent

#### ***Major Use***

Rangeland

#### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

### ***60—Leatherman-Bluedome complex, 2 to 8 percent slopes***

#### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12



*Elevation:* 6,300 to 6,600 feet  
*Mean annual precipitation:* 9 to 11 inches  
*Mean annual air temperature:* 38 to 40 degrees F  
*Frost-free period:* 50 to 60 days

### **Map Unit Composition**

*Leatherman and similar soils:* 45 percent  
*Bluedome and similar soils:* 30 percent  
*Dissimilar minor components:* 25 percent

### **Characteristics of Leatherman Soil**

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Northeast  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone  
*Slope range:* 2 to 8 percent  
*Depth to restrictive feature:* 9 to 20 inches to indurated duripan  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 10  
*Available water capacity (entire profile):* Very low (about 1.2 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7s  
*Ecological site:* SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY  
(R012XY007ID)

#### **Typical profile**

A1—0 to 3 inches; gravelly loam  
A2—3 to 8 inches; very gravelly loam  
Bk—8 to 12 inches; very gravelly loam  
2Bkqm—12 to 17 inches; cemented material  
2Bkq—17 to 60 inches; extremely gravelly loamy coarse sand

### **Characteristics of Bluedome Soil**

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Northeast  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone  
*Slope range:* 2 to 8 percent  
*Depth to restrictive feature:* 20 to 40 inches to strongly cemented duripan  
*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Low (about 3.4 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

### **Typical profile**

A—0 to 3 inches; loam

Bk—3 to 22 inches; gravelly loam

2Bkqm—22 to 30 inches; cemented material

2Bkq—30 to 60 inches; extremely gravelly sandy loam

### ***Dissimilar Minor Components***

- Leatherman soils, bedrock substratum—10 percent
- Goosebury soils, deep—5 percent
- Sparmo soils—5 percent
- Zer soils—3 percent
- Zeale soils—2 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***61—Malm-Bondfarm-Matheson complex, 2 to 8 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,800 to 5,500 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 100 days

### **Map Unit Composition**

*Malm and similar soils:* 60 percent

*Bondfarm and similar soils:* 20 percent

*Matheson and similar soils:* 15 percent

*Dissimilar minor components:* 5 percent

### ***Characteristics of Malm Soil***

#### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Eolian deposits over basalt

*Slope range:* 2 to 8 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* High

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Land capability subclass (irrigated):* 4e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

#### **Typical profile**

A—0 to 10 inches; fine sandy loam

Bk1—10 to 32 inches; fine sandy loam

Bk2—32 to 38 inches; gravelly fine sandy loam

2R—38 to 48 inches; unweathered bedrock

### ***Characteristics of Bondfarm Soil***

#### **Setting**

*Landform:* Ridges, lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Eolian deposits over basalt

*Slope range:* 2 to 8 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* High

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7s

*Ecological site:* SHALLOW STONY 8-12 ARTRW8/PSSP6 (R011BY009ID)

**Typical profile**

A—0 to 2 inches; cobbly fine sandy loam  
 Bk—2 to 11 inches; fine sandy loam  
 2R—11 to 21 inches; unweathered bedrock

***Characteristics of Matheson Soil*****Setting**

*Landform:* Lava plains, mounds  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium and/or eolian deposits over basalt  
*Slope range:* 2 to 8 percent  
*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* High  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Moderate (about 5.2 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* SANDY 8-14 ARTRT/HECOC8-ACHY (R011AY014ID)

**Typical profile**

A—0 to 6 inches; fine sandy loam  
 Bw—6 to 12 inches; sandy loam  
 Bk1—12 to 35 inches; sandy loam  
 Bk2—35 to 45 inches; gravelly sandy loam  
 R—45 to 55 inches; unweathered bedrock

***Dissimilar Minor Component***

- Rock outcrop—5 percent

***Major Uses***

Irrigated cropland, rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Crops and Pasture”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## **62—Matheson-Grassy Butte complex, 2 to 15 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,800 to 5,500 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 40 to 45 degrees F

*Frost-free period:* 75 to 85 days

### **Map Unit Composition**

*Matheson and similar soils:* 70 percent

*Grassy Butte and similar soils:* 20 percent

*Dissimilar minor components:* 10 percent

### **Characteristics of Matheson Soil**

#### **Setting**

*Landform:* Fan remnants, lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium and/or eolian deposits over basalt

*Slope range:* 2 to 15 percent

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* High

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Moderate (about 5.2 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SANDY 8-14 ARTRT/HECOC8-ACHY (R011AY014ID)

#### **Typical profile**

A—0 to 6 inches; fine sandy loam

Bw—6 to 12 inches; sandy loam

Bk1—12 to 35 inches; sandy loam

Bk2—35 to 45 inches; gravelly sandy loam

2R—45 to 55 inches; unweathered bedrock

### **Characteristics of Grassy Butte Soil**

#### **Setting**

*Landform:* Lava plains, mounds

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Eolian deposits

*Slope range:* 12 to 15 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Somewhat excessively drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* High

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 4

*Available water capacity (entire profile):* Low (about 4.2 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SANDY 8-14 ARTRT/HECOC8-ACHY (R011AY014ID)

### **Typical profile**

A—0 to 7 inches; loamy sand

Bk—7 to 60 inches; loamy sand

### ***Dissimilar Minor Component***

- Sparmo soils—10 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## **63—McCain-Thornock complex, 1 to 4 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,500 to 4,700 feet

*Mean annual precipitation:* 9 to 10 inches

*Mean annual air temperature:* 45 to 47 degrees F

*Frost-free period:* 100 to 120 days

### **Map Unit Composition**

*McCain and similar soils:* 65 percent

*Thornock and similar soils:* 20 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of McCain Soil***

#### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Silty alluvium and/or loess over basalt

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Land capability subclass (irrigated):* 3e

#### **Typical profile**

A—0 to 4 inches; loam

AB—4 to 7 inches; loam

Bt—7 to 15 inches; clay loam

Bk1—15 to 23 inches; silt loam

Bk2—23 to 28 inches; cobbly silt loam

2R—28 to 38 inches; unweathered bedrock

### ***Characteristics of Thornock Soil***

#### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium and loess over basalt

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Low (about 2.6 inches)

**Interpretive groups***Land capability subclass (nonirrigated): 6s**Land capability subclass (irrigated): 4s***Typical profile**

A1—0 to 5 inches; stony loam

A2—5 to 10 inches; silt loam

Bk—10 to 16 inches; cobbly loam

R—16 to 26 inches; unweathered bedrock

***Dissimilar Minor Components***

- McCain soils, shallow—10 percent
- McCain soils, deep—5 percent

***Major Uses***

Irrigated cropland, irrigated pastureland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***64—McCarey-Beartrap complex, 1 to 6 percent slopes*****Map Unit Setting***General landscape:* Plains*Major land resource area (MLRA):* 11*Elevation:* 4,600 to 5,500 feet*Mean annual precipitation:* 12 to 14 inches*Mean annual air temperature:* 43 to 45 degrees F*Frost-free period:* 70 to 90 days***Map Unit Composition****McCarey and similar soils:* 45 percent*Beartrap and similar soils:* 35 percent*Dissimilar minor components:* 20 percent***Characteristics of McCarey Soil*****Setting***Landform:* Lava plains*Downslope shape:* Linear*Across-slope shape:* Linear*Aspect (representative):* East*Aspect (range):* All aspects**Properties and qualities***Parent material:* Mixed alluvium and/or loess over basalt*Slope range:* 1 to 6 percent*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock



*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Moderate (about 6.5 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4s

*Ecological site:* LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)

### **Typical profile**

A—0 to 12 inches; silt loam

Bt—12 to 18 inches; silty clay loam

Bk—18 to 33 inches; silt loam

2R—33 to 43 inches; unweathered bedrock

## ***Characteristics of Beartrap Soil***

### **Setting**

*Landform:* Lava plains, mounds

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Mixed alluvium and/or eolian deposits over basalt

*Slope range:* 2 to 6 percent

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* High (about 8.5 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4c

*Ecological site:* LOAMY BOTTOM 8-14 ARTRT/LECI4 (R011XY015ID)

### **Typical profile**

A—0 to 16 inches; loam

Bk—16 to 52 inches; fine sandy loam

R—52 to 62 inches; unweathered bedrock

## ***Dissimilar Minor Components***

- McCarey soils, shallow—10 percent
- Vickton soils—10 percent

## ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***65—McCarey-Beartrap complex, 6 to 20 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 4,800 to 5,600 feet  
*Mean annual precipitation:* 12 to 14 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 70 to 90 days

### ***Map Unit Composition***

*McCarey and similar soils:* 60 percent  
*Beartrap and similar soils:* 25 percent  
*Dissimilar minor components:* 15 percent

### ***Characteristics of McCarey Soil***

#### **Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Northeast  
*Aspect (range):* North to east (clockwise)

#### **Properties and qualities**

*Parent material:* Mixed alluvium and/or loess over basalt  
*Slope range:* 6 to 20 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Moderate (about 6.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e  
*Ecological site:* LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)

#### **Typical profile**

A—0 to 12 inches; silt loam  
 Bt—12 to 18 inches; silty clay loam  
 Bk—18 to 33 inches; silt loam  
 2R—33 to 43 inches; unweathered bedrock

### ***Characteristics of Beartrap Soil***

#### **Setting**

*Landform:* Mounds, lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Northeast  
*Aspect (range):* North to east (clockwise)

#### **Properties and qualities**

*Parent material:* Mixed alluvium and/or eolian deposits over basalt  
*Slope range:* 6 to 20 percent  
*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* High (about 8.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e  
*Ecological site:* LOAMY BOTTOM 8-14 ARTRT/LECI4 (R011XY015ID)

#### **Typical profile**

A—0 to 16 inches; loam  
 Bk—16 to 52 inches; fine sandy loam  
 R—52 to 62 inches; unweathered bedrock

#### ***Dissimilar Minor Components***

- McCarey soils, shallow—5 percent
- Molyneux soils—5 percent
- Rock outcrop—5 percent

#### ***Major Use***

Rangeland

#### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

### ***66—McCarey-Beartrap-Rock outcrop complex, 2 to 15 percent slopes***

#### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 4,700 to 5,400 feet

*Mean annual precipitation:* 12 to 14 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 70 to 90 days

### **Map Unit Composition**

*McCarey and similar soils:* 40 percent  
*Beartrap and similar soils:* 30 percent  
*Rock outcrop:* 25 percent  
*Dissimilar minor components:* 5 percent

### **Characteristics of McCarey Soil**

#### **Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium and/or loess over basalt  
*Slope range:* 2 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Moderate (about 6.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e  
*Ecological site:* LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)

#### **Typical profile**

A—0 to 12 inches; silt loam  
 Bt—12 to 18 inches; silty clay loam  
 Bk—18 to 33 inches; silt loam  
 2R—33 to 43 inches; unweathered bedrock

### **Characteristics of Beartrap Soil**

#### **Setting**

*Landform:* Lava plains, mounds  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium and/or eolian deposits over basalt  
*Slope range:* 2 to 15 percent  
*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* High (about 8.7 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e

*Ecological site:* LOAMY BOTTOM 8-14 ARTRT/LECI4 (R011XY015ID)

### **Typical profile**

A—0 to 16 inches; loam

Bk—16 to 52 inches; fine sandy loam

R—52 to 62 inches; unweathered bedrock

### ***Characteristics of Rock Outcrop***

*Description:* Areas or bands of exposed bedrock of varying geologic origin

### ***Dissimilar Minor Components***

- Vickton soils—3 percent
- McCarey soils, shallow—2 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***67—McCarey-Molyneux-Lava flows complex, 2 to 15 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 10, 11

*Elevation:* 4,700 to 5,400 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 90 days

### **Map Unit Composition**

*McCarey and similar soils:* 40 percent

*Molyneux and similar soils:* 25 percent

*Lava flows:* 20 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of McCarey Soil***

#### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium and/or loess over basalt

*Slope range:* 2 to 15 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Moderate (about 5.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e

*Ecological site:* LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)

#### **Typical profile**

A—0 to 11 inches; loam

Bt—11 to 23 inches; silty clay loam

Bk—23 to 28 inches; silt loam

2R—28 to 38 inches; unweathered bedrock

### ***Characteristics of Molyneux Soil***

#### **Setting**

*Landform:* Depressions of lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium and/or colluvium

*Slope range:* 2 to 8 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very high (about 11.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 3e

*Ecological site:* SANDY LOAM 12-16 ARTRT/PSSPS (R010AY022ID)

**Typical profile**

A—0 to 13 inches; loam

Bt1—13 to 25 inches; clay loam

Bt2—25 to 62 inches; silt loam

***Characteristics of Lava Flows***

*Description:* Barren basalt, commonly lobate in shape

*Common features:* Fissures, pressure ridges, sinkholes, vertical cliffs

***Dissimilar Minor Components***

- McCarey soils, shallow—10 percent
- Beartrap soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***68—McCarey-Splittop-Lava flows complex, 4 to 8 percent slopes*****Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 5,200 to 5,500 feet

*Mean annual precipitation:* 10 to 12 inches

*Mean annual air temperature:* 42 to 45 degrees F

*Frost-free period:* 70 to 90 days

***Map Unit Composition***

*McCarey and similar soils:* 55 percent

*Splittop and similar soils:* 20 percent

*Lava flows:* 15 percent

*Dissimilar minor components:* 10 percent

***Characteristics of McCarey Soil*****Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium and/or loess over basalt

*Slope range:* 4 to 8 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Moderate (about 6.5 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 4e

*Ecological site:* LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)

**Typical profile**

A—0 to 12 inches; silt loam

Bt—12 to 18 inches; silty clay loam

Bk—18 to 33 inches; silt loam

2R—33 to 43 inches; unweathered bedrock

***Characteristics of Splittop Soil*****Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Eolian deposits over basalt

*Slope range:* 4 to 8 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 5.6 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 4e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

**Typical profile**

A—0 to 4 inches; loam

Bk—4 to 30 inches; loam

2R—30 to 40 inches; unweathered bedrock

***Characteristics of Lava Flows***

*Description:* Barren basalt, commonly lobate in shape

*Common features:* Fissures, pressure ridges, sinkholes, vertical cliffs



***Dissimilar Minor Components***

- McCarey soils, clayey subsoil—5 percent
- Tenno soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

***69—McCarey-Vickton-Lava flows complex, 0 to 15 percent slopes*****Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 4,700 to 5,400 feet  
*Mean annual precipitation:* 12 to 16 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 70 to 90 days

***Map Unit Composition***

*McCarey and similar soils:* 45 percent  
*Vickton and similar soils:* 20 percent  
*Lava flows:* 15 percent  
*Dissimilar minor components:* 20 percent

***Characteristics of McCarey Soil*****Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Northwest  
*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium and/or loess over basalt  
*Slope range:* 2 to 15 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Moderate (about 6.5 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e

*Ecological site:* LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)

### **Typical profile**

A—0 to 12 inches; silt loam

Bt—12 to 18 inches; silty clay loam

Bk—18 to 33 inches; silt loam

2R—33 to 43 inches; unweathered bedrock

## ***Characteristics of Vickton Soil***

### **Setting**

*Landform:* Depressions, lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northwest

*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Loess over basalt

*Slope range:* 0 to 12 percent

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very high (about 11.1 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 3e

*Ecological site:* LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)

### **Typical profile**

A—0 to 8 inches; silt loam

Bt—8 to 14 inches; silty clay loam

Bk—14 to 58 inches; silty clay loam

2R—58 to 68 inches; unweathered bedrock

## ***Characteristics of Lava Flows***

*Description:* Barren basalt, commonly lobate in shape

*Common features:* Fissures, pressure ridges, sinkholes, vertical cliffs

## ***Dissimilar Minor Components***

- McCarey soils, shallow—10 percent
- Beartrap soils—5 percent
- McCarey soils, gravelly subsoil—5 percent

## ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
“Recreation”  
“Wildlife Habitat”  
“Engineering”  
“Soil Properties”

## ***70—McClenden-Thornock complex, 1 to 4 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 4,500 to 4,600 feet  
*Mean annual precipitation:* 9 to 10 inches  
*Mean annual air temperature:* 45 to 48 degrees F  
*Frost-free period:* 100 to 120 days

### **Map Unit Composition**

*McClenden and similar soils:* 55 percent  
*Thornock and similar soils:* 20 percent  
*Dissimilar minor components:* 25 percent

### **Characteristics of McClenden Soil**

#### **Setting**

*Landform:* Depressions of lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium over basalt  
*Slope range:* 1 to 4 percent  
*Depth to restrictive features:* 40 to 55 inches to indurated duripan, 45 to 60 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 5  
*Available water capacity (entire profile):* Moderate (about 7.2 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Land capability subclass (irrigated):* 2e

#### **Typical profile**

A—0 to 5 inches; fine sandy loam  
Bw—5 to 11 inches; loam

Bk1—11 to 19 inches; loam  
 Bk2—19 to 51 inches; fine sandy loam  
 2Bkqm—51 to 53 inches; cemented material  
 2R—53 to 63 inches; unweathered bedrock

### ***Characteristics of Thornock Soil***

#### **Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium and loess over basalt  
*Slope range:* 1 to 4 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 5  
*Available water capacity (entire profile):* Low (about 2.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6s  
*Land capability subclass (irrigated):* 4s

#### **Typical profile**

A1—0 to 5 inches; stony loam  
 A2—5 to 10 inches; silt loam  
 Bk—10 to 16 inches; cobbly loam  
 R—16 to 26 inches; unweathered bedrock

### ***Dissimilar Minor Components***

- Splittop soils, sandy—10 percent
- Thornock soils, noncalcareous subsoil—10 percent
- Kimama soils, sandy—5 percent

### ***Major Use***

Irrigated cropland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## **71—Medicine-Whiteknob complex, 0 to 1 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 4,800 to 5,400 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 70 to 100 days

### **Map Unit Composition**

*Medicine and similar soils:* 60 percent

*Whiteknob and similar soils:* 25 percent

*Dissimilar minor components:* 15 percent

### **Characteristics of Medicine Soil**

#### **Setting**

*Landform:* Terraces

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 1 percent

*Depth to restrictive feature:* 20 to 40 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Very slightly saline (about 2 millimhos per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6c

*Land capability subclass (irrigated):* 3s

#### **Typical profile**

A—0 to 4 inches; loam

Bw—4 to 12 inches; loam

Bk1—12 to 25 inches; silt loam

2Bk2—25 to 60 inches; extremely gravelly loamy sand

### **Characteristics of Whiteknob Soil**

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 1 percent

*Depth to restrictive feature:* 10 to 20 inches to strongly contrasting textural stratification

*Drainage class:* Somewhat excessively drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Very low (about 2.3 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Land capability subclass (irrigated):* 4s

**Typical profile**

A—0 to 5 inches; loam

Bw—5 to 10 inches; loam

2Bk1—10 to 18 inches; extremely gravelly sandy loam

2Bk2—18 to 60 inches; extremely gravelly sand

***Dissimilar Minor Components***

- Zer soils—10 percent
- Sparmo soils—5 percent

***Major Uses***

Irrigated cropland, irrigated pastureland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***72—Menan silt loam, 0 to 2 percent slopes*****Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,500 to 5,500 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 100 days

***Map Unit Composition***

*Menan and similar soils:* 85 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of Menan Soil***

#### **Setting**

*Landform:* Depressions of lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 1

*Available water capacity (entire profile):* Very high (about 11.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6c

*Ecological site:* LOAMY 8-12 ARTRT/LECI4 (R011BY006ID)

#### **Typical profile**

A—0 to 7 inches; silt loam

Bt—7 to 33 inches; silty clay loam

Btk—33 to 38 inches; silty clay loam

Bk—38 to 60 inches; silt loam

### ***Dissimilar Minor Components***

- Atom soils—5 percent
- Kimama soils—5 percent
- Techicknot soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***73—Mogg-Shagel association, 15 to 60 percent slopes***

### **Map Unit Setting**

*General landscape:* Foothills, mountains

*Major land resource area (MLRA):* 12

*Elevation:* 5,000 to 7,500 feet

*Mean annual precipitation:* 10 to 14 inches  
*Mean annual air temperature:* 38 to 44 degrees F  
*Frost-free period:* 70 to 90 days

### **Map Unit Composition**

*Mogg and similar soils:* 45 percent  
*Shagel and similar soils:* 30 percent  
*Dissimilar minor components:* 25 percent

### **Characteristics of Mogg Soil**

#### **Setting**

*Landform:* Ridges, hillslopes, mountain slopes  
*Downslope shape:* Concave  
*Across-slope shape:* Concave  
*Aspect (representative):* Southwest  
*Aspect (range):* Southeast to west (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium derived from quartzite and/or rhyolite  
*Slope range:* 15 to 60 percent  
*Depth to restrictive feature:* 12 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Very slightly saline (about 2 millimhos per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Very low (about 0.9 inch)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

#### **Typical profile**

A—0 to 2 inches; very gravelly loam  
 Bw—2 to 6 inches; very gravelly loam  
 Bk—6 to 13 inches; very flaggy loam  
 R—13 to 23 inches; unweathered bedrock

### **Characteristics of Shagel Soil**

#### **Setting**

*Landform:* Mountain slopes, hillslopes  
*Downslope shape:* Convex  
*Across-slope shape:* Convex  
*Aspect (representative):* Southwest  
*Aspect (range):* Southeast to west (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium derived from rhyolite  
*Slope range:* 15 to 60 percent  
*Depth to restrictive feature:* 12 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high



*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID  
(R012XY002ID)

#### **Typical profile**

A—0 to 3 inches; very flaggy loam

Bk1—3 to 7 inches; very gravelly loam

Bk2—7 to 10 inches; very flaggy loam

Bkq—10 to 16 inches; extremely gravelly loam

R—16 to 26 inches; unweathered bedrock

#### ***Dissimilar Minor Components***

- Mogg soils, moderately deep—10 percent
- Mogg soils, deep—5 percent
- Shagel soils, moderately deep—5 percent
- Sparmo soils—5 percent

#### ***Major Use***

Rangeland

#### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

### ***74—Mooretown-Borah complex, 0 to 2 percent slopes***

#### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,000 to 6,100 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 40 to 42 degrees F

*Frost-free period:* 70 to 90 days

#### **Map Unit Composition**

*Mooretown and similar soils:* 50 percent

*Borah and similar soils:* 40 percent

*Dissimilar minor components:* 10 percent

### ***Characteristics of Mooretown Soil***

#### **Setting**

*Landform:* Flood plains, stream terraces

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Depth to restrictive feature:* 40 to 60 inches to strongly contrasting textural stratification

*Drainage class:* Somewhat poorly drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* Occasional (see Water Features table)

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* About 18 to 36 inches (see Water Features table)

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 7.3 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4w

*Land capability subclass (irrigated):* 4w

*Ecological site:* DRY MEADOW PONE3-PHAL2 (R012XY023ID)

#### **Typical profile**

A—0 to 3 inches; loam

Bk—3 to 24 inches; loam

Bg1—24 to 48 inches; loam

2Bg2—48 to 60 inches; extremely gravelly loamy sand

### ***Characteristics of Borah Soil***

#### **Setting**

*Landform:* Stream terraces, flood plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Depth to restrictive feature:* 8 to 14 inches to strongly contrasting textural stratification

*Drainage class:* Poorly drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* Occasional (see Water Features table)

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* About 12 to 24 inches (see Water Features table)

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Very low (about 1.3 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated): 5w*

*Land capability subclass (irrigated): 5w*

*Ecological site: MEADOW DECA18/CANE2 (R012XY038ID)*

**Typical profile**

A—0 to 3 inches; silt loam

Bkg—3 to 9 inches; loam

2Cg—9 to 60 inches; extremely gravelly coarse sand

***Dissimilar Minor Components***

- Arco soils—5 percent
- Borco soils—5 percent

***Major Uses***

Irrigated pastureland, rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***75—Mooretown-Borco complex, 0 to 2 percent slopes******Map Unit Setting***

*General landscape: Plains*

*Major land resource area (MLRA): 12*

*Elevation: 5,000 to 6,100 feet*

*Mean annual precipitation: 9 to 11 inches*

*Mean annual air temperature: 40 to 42 degrees F*

*Frost-free period: 70 to 90 days*

***Map Unit Composition***

*Mooretown, drained, and similar soils: 50 percent*

*Borco and similar soils: 30 percent*

*Dissimilar minor components: 20 percent*

***Characteristics of Mooretown Soil, Drained*****Setting**

*Landform: Flood plains, stream terraces*

*Downslope shape: Linear*

*Across-slope shape: Linear*

*Aspect (representative): Southeast*

*Aspect (range): All aspects*

**Properties and qualities**

*Parent material: Mixed alluvium*

*Slope range: 0 to 2 percent*

*Depth to restrictive feature:* 40 to 60 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* Occasional (see Water Features table)

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 7.3 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Land capability subclass (irrigated):* 3e

*Ecological site:* ALLUVIAL BOTTOM 8-13 ARTRT/ELLAL-LECI4 (R012XY011ID)

### **Typical profile**

A—0 to 3 inches; loam

Bk—3 to 24 inches; loam

Bg1—24 to 48 inches; loam

2Bg2—48 to 60 inches; extremely gravelly loamy sand

## ***Characteristics of Borco Soil***

### **Setting**

*Landform:* Stream terraces, flood plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Depth to restrictive feature:* 10 to 20 inches to strongly contrasting textural stratification

*Drainage class:* Somewhat excessively drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Very low (about 0.9 inch)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Land capability subclass (irrigated):* 4s

*Ecological site:* ALLUVIAL BOTTOM 8-13 ARTRT/ELLAL-LECI4 (R012XY011ID)

### **Typical profile**

A—0 to 2 inches; gravelly loam

Bk—2 to 10 inches; gravelly sandy loam

2C1—10 to 26 inches; extremely gravelly sand

2C2—26 to 60 inches; extremely gravelly loamy coarse sand

## ***Dissimilar Minor Components***

- Blackfoot soils—10 percent
- Arco soils—5 percent
- Borah soils—5 percent

**Major Uses**

Irrigated cropland, irrigated pastureland, rangeland

**Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Crops and Pasture”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

**76—Nargon-Atom-Techicknot complex, 0 to 20 percent slopes****Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 4,500 to 5,800 feet  
*Mean annual precipitation:* 9 to 11 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 70 to 100 days

**Map Unit Composition**

*Nargon and similar soils:* 35 percent  
*Atom and similar soils:* 30 percent  
*Techicknot and similar soils:* 25 percent  
*Dissimilar minor components:* 10 percent

**Characteristics of Nargon Soil****Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* Northeast to south (clockwise)

**Properties and qualities**

*Parent material:* Mixed alluvium over basalt  
*Slope range:* 2 to 20 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 1  
*Available water capacity (entire profile):* Low (about 4.2 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

**Typical profile**

A—0 to 5 inches; loam  
 Bk—5 to 15 inches; clay loam  
 Bkq—15 to 22 inches; stony loam  
 2R—22 to 32 inches; unweathered bedrock

***Characteristics of Atom Soil*****Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* Northeast to south (clockwise)

**Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 2 to 20 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 22  
*Available water capacity (entire profile):* High (about 9.3 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

**Typical profile**

A—0 to 7 inches; silt loam  
 Bk1—7 to 15 inches; silty clay loam  
 Bk2—15 to 60 inches; silt loam

***Characteristics of Techicknot Soil*****Setting**

*Landform:* Depressions of lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 0 to 12 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Very high (about 11.1 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated): 6e*

*Ecological site: LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)*

**Typical profile**

A—0 to 4 inches; loam

Bt—4 to 29 inches; clay loam

Bk1—29 to 48 inches; loam

Bk2—48 to 60 inches; silt loam

***Dissimilar Minor Components***

- Beartrap soils—5 percent
- Deuce soils—2 percent
- Splittop soils—2 percent
- Rock outcrop—1 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***77—Nargon-Deuce-Lava flows complex, 0 to 20 percent slopes*****Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,500 to 5,800 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 100 days

***Map Unit Composition***

*Nargon and similar soils:* 50 percent

*Deuce and similar soils:* 20 percent

*Lava flows:* 10 percent

*Dissimilar minor components:* 20 percent

***Characteristics of Nargon Soil*****Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* North to east (clockwise)



**Properties and qualities***Parent material:* Mixed alluvium over basalt*Slope range:* 2 to 20 percent*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock*Drainage class:* Well drained*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high*Flooding frequency:* None*Ponding frequency:* None*Seasonal high water table (minimum depth):* More than 72 inches*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)*Sodicity (maximum):* Sodium adsorption ratio about 1*Available water capacity (entire profile):* Low (about 3.8 inches)**Interpretive groups***Land capability subclass (nonirrigated):* 6e*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)**Typical profile**

A—0 to 2 inches; silt loam

Bk—2 to 7 inches; clay loam

Bkq—7 to 21 inches; stony loam

2R—21 to 31 inches; unweathered bedrock

***Characteristics of Deuce Soil*****Setting***Landform:* Rims, lava plains*Downslope shape:* Linear*Across-slope shape:* Linear*Aspect (representative):* Northeast*Aspect (range):* North to east (clockwise)**Properties and qualities***Parent material:* Mixed alluvium and/or loess over basalt*Slope range:* 2 to 20 percent*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock*Drainage class:* Well drained*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high*Flooding frequency:* None*Ponding frequency:* None*Seasonal high water table (minimum depth):* More than 72 inches*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)*Sodicity (maximum):* Nonsodic*Available water capacity (entire profile):* Low (about 2.9 inches)**Interpretive groups***Land capability subclass (nonirrigated):* 6e*Ecological site:* SHALLOW STONY 8-12 ARTRW8/PSSP6 (R011BY009ID)**Typical profile**

A—0 to 2 inches; stony silt loam

Bk—2 to 11 inches; silt loam

Bkq—11 to 19 inches; silt loam

R—19 to 29 inches; unweathered bedrock

***Characteristics of Lava Flows****Description:* Barren basalt, commonly lobate in shape



*Common features:* Fissures, pressure ridges, sinkholes, vertical cliffs

*Slope range:* 2 to 20 percent

### ***Dissimilar Minor Components***

- Deuce soils, skeletal subsoil—10 percent
- Atom soils—5 percent
- Coffee soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***78—Nitchly gravelly loam, 15 to 50 percent slopes***

### ***Map Unit Setting***

*General landscape:* Foothills, mountains

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 8,500 feet

*Mean annual precipitation:* 8 to 11 inches

*Mean annual air temperature:* 36 to 40 degrees F

*Frost-free period:* 20 to 50 days

### ***Map Unit Composition***

*Nitchly and similar soils:* 75 percent

*Dissimilar minor components:* 25 percent

### ***Characteristics of Nitchly Soil***

#### ***Setting***

*Landform:* Hillslopes, mountain slopes

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* Northeast to southwest (clockwise)

#### ***Properties and qualities***

*Parent material:* Colluvium derived from limestone

*Slope range:* 15 to 50 percent

*Depth to restrictive feature:* 20 to 30 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 6.2 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

### **Typical profile**

A—0 to 10 inches; gravelly loam

Bk1—10 to 24 inches; very gravelly loam

Bk2—24 to 60 inches; very gravelly clay loam

### ***Dissimilar Minor Components***

- Ike soils—10 percent
- Adek soils—5 percent
- Jimbee soils—5 percent
- Rock outcrop—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***79—Nurkey-Dacont association, 5 to 35 percent slopes***

### **Map Unit Setting**

*General landscape:* Mountains, foothills

*Major land resource area (MLRA):* 12

*Elevation:* 6,300 to 7,500 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 38 to 43 degrees F

*Frost-free period:* 40 to 75 days

### ***Map Unit Composition***

*Nurkey and similar soils:* 50 percent

*Dacont and similar soils:* 30 percent

*Dissimilar minor components:* 20 percent

### ***Characteristics of Nurkey Soil***

#### **Setting**

*Landform:* Mountain slopes, hillslopes

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* North

*Aspect (range):* Northwest to northeast (clockwise)

**Properties and qualities**

*Parent material:* Colluvium derived from igneous rock

*Slope range:* 5 to 35 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* High (about 8 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A—0 to 7 inches; gravelly loam

Bt—7 to 15 inches; very gravelly clay loam

Bk—15 to 60 inches; very gravelly loam

***Characteristics of Dacont Soil*****Setting**

*Landform:* Mountain slopes, hillslopes

*Downslope shape:* Linear

*Across-slope shape:* Convex

*Aspect (representative):* South

*Aspect (range):* Northeast to northwest (clockwise)

**Properties and qualities**

*Parent material:* Slope alluvium and/or colluvium derived from rhyolite

*Slope range:* 5 to 35 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 4

*Available water capacity (entire profile):* Moderate (about 6.1 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A—0 to 2 inches; gravelly loam

Bt—2 to 8 inches; very gravelly loam

Bk1—8 to 12 inches; very gravelly loam

Bk2—12 to 24 inches; very gravelly sandy loam

Bk3—24 to 35 inches; very gravelly sandy loam

Bkq—35 to 60 inches; very gravelly sandy loam

### ***Dissimilar Minor Components***

- Donkehill soils—10 percent
- Hutchley soils—5 percent
- Zer soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***80—Nurkey-Dacont association, 35 to 60 percent slopes***

### ***Map Unit Setting***

*General landscape:* Mountains, foothills  
*Major land resource area (MLRA):* 12  
*Elevation:* 5,500 to 7,000 feet  
*Mean annual precipitation:* 12 to 14 inches  
*Mean annual air temperature:* 38 to 43 degrees F  
*Frost-free period:* 40 to 75 days

### ***Map Unit Composition***

*Nurkey and similar soils:* 50 percent  
*Dacont and similar soils:* 35 percent  
*Dissimilar minor components:* 15 percent

### ***Characteristics of Nurkey Soil***

#### ***Setting***

*Landform:* Hillslopes, mountain slopes  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* North  
*Aspect (range):* Northwest to northeast (clockwise)

#### ***Properties and qualities***

*Parent material:* Colluvium derived from igneous rock  
*Slope range:* 35 to 60 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* High (about 8 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated): 7e*

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A—0 to 7 inches; gravelly loam

Bt—7 to 15 inches; very gravelly clay loam

Bk—15 to 60 inches; very gravelly loam

***Characteristics of Dacont Soil*****Setting**

*Landform:* Hillslopes, mountain slopes

*Downslope shape:* Concave

*Across-slope shape:* Linear

*Aspect (representative):* South

*Aspect (range):* Northeast to northwest (clockwise)

**Properties and qualities**

*Parent material:* Slope alluvium and/or colluvium derived from rhyolite

*Slope range:* 35 to 60 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 4

*Available water capacity (entire profile):* Moderate (about 6.2 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated): 7e*

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A—0 to 2 inches; gravelly loam

Bt—2 to 8 inches; very gravelly loam

Bk1—8 to 12 inches; very gravelly loam

Bk2—12 to 24 inches; very gravelly sandy loam

Bk3—24 to 35 inches; very gravelly sandy loam

Bkq—35 to 60 inches; very gravelly sandy loam

***Dissimilar Minor Components***

- Donkehill soils—5 percent
- Zeebar soils—5 percent
- Zer soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”  
 “Soil Properties”

## **81—Nurkey complex, 5 to 35 percent slopes**

### **Map Unit Setting**

*General landscape:* Mountains, foothills  
*Major land resource area (MLRA):* 12  
*Elevation:* 6,300 to 7,500 feet  
*Mean annual precipitation:* 12 to 14 inches  
*Mean annual air temperature:* 38 to 40 degrees F  
*Frost-free period:* 40 to 60 days

### **Map Unit Composition**

*Nurkey and similar soils:* 80 percent  
*Nurkey, low precipitation, and similar soils:* 20 percent

### **Characteristics of Nurkey Soil**

#### **Setting**

*Landform:* Hillslopes, mountain slopes  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southwest  
*Aspect (range):* South to west (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium derived from igneous rock  
*Slope range:* 5 to 35 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Moderate (about 6.8 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A1—0 to 3 inches; gravelly loam  
 A2—3 to 10 inches; gravelly loam  
 Bt—10 to 20 inches; very gravelly loam  
 Bk1—20 to 40 inches; very gravelly loam  
 Bk2—40 to 60 inches; very gravelly sandy loam

### **Characteristics of Nurkey Soil, Low Precipitation**

#### **Setting**

*Landform:* Mountain slopes, hillslopes  
*Downslope shape:* Linear  
*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* South to west (clockwise)

**Properties and qualities**

*Parent material:* Colluvium derived from igneous rock

*Slope range:* 5 to 35 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 6.4 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY 13-16 ARTR4/PSSPS-FEID (R012XY008ID)

**Typical profile**

A—0 to 10 inches; gravelly loam

Bt—10 to 17 inches; very gravelly clay loam

Bk1—17 to 35 inches; very gravelly loam

Bk2—35 to 60 inches; very gravelly sandy loam

**Major Use**

Rangeland

**Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

**82—Calcids-Rubble land-Rock outcrop complex, 30 to 80 percent slopes**

**Map Unit Setting**

*General landscape:* Mountains

*Major land resource area (MLRA):* 12

*Elevation:* 5,200 to 7,500 feet

*Mean annual precipitation:* 11 to 13 inches

*Mean annual air temperature:* 36 to 43 degrees F

*Frost-free period:* 50 to 75 days

**Map Unit Composition**

*Calcids and similar soils:* 50 percent

*Rubble land:* 20 percent

*Rock outcrop:* 15 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of Calcids***

#### **Setting**

*Landform:* Mountain slopes

*Downslope shape:* Concave

*Across-slope shape:* Convex

*Aspect (representative):* South

*Aspect (range):* East to southwest (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or mixed slope alluvium

*Slope range:* 30 to 80 percent

*Depth to restrictive feature:* 20 to 80 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* STEEP LIMESTONE 12-20 CELE3/PSSPS-FEID (R012XY015ID)

#### **Typical profile**

A—0 to 4 inches; very gravelly loam

Bw—4 to 12 inches; very gravelly loam

Bk—12 to 25 inches; extremely gravelly loam

C—25 to 60 inches; extremely gravelly coarse sandy loam

### ***Characteristics of Rubble Land***

*Description:* Angular cobbles, stones, and boulders of varying geologic origin

*Position on landscape:* Base of rock outcroppings, cliffs, mountains, or very steep rock slopes

### ***Characteristics of Rock Outcrop***

*Description:* Areas or bands of exposed bedrock of varying geologic origins

### ***Dissimilar Minor Components***

- Ketchum soils, nonskeletal subsoil—10 percent
- Mooretown soils, well drained—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”



**83—Packmo-Snowslide complex, 8 to 12 percent slopes****Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,400 to 6,500 feet

*Mean annual precipitation:* 8 to 10 inches

*Mean annual air temperature:* 40 to 43 degrees F

*Frost-free period:* 60 to 80 days

**Map Unit Composition**

*Packmo and similar soils:* 50 percent

*Snowslide and similar soils:* 40 percent

*Dissimilar minor components:* 10 percent

**Characteristics of Packmo Soil****Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Convex

*Aspect (representative):* South

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 8 to 12 percent

*Depth to restrictive feature:* 40 to 60 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 3.1 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* COLD GRAVELLY 8-12 ARNO4/HECOC8 (R012XY040ID)

**Typical profile**

A—0 to 3 inches; gravelly loam

Bw—3 to 12 inches; very gravelly sandy loam

Bkq1—12 to 42 inches; very gravelly sandy loam

2Bkq2—42 to 60 inches; extremely gravelly loamy coarse sand

**Characteristics of Snowslide Soil****Setting**

*Landform:* Hillslopes, fan remnants

*Geomorphic position (two-dimensional):* Toeslopes

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* South

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium derived from limestone and/or quartzite

*Slope range:* 8 to 12 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 8

*Available water capacity (entire profile):* Low (about 3.1 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)

**Typical profile**

A—0 to 5 inches; gravelly loam

Bk1—5 to 24 inches; very gravelly loam

Bk2—24 to 60 inches; extremely gravelly sandy loam

***Dissimilar Minor Component***

- Goosebury soils—10 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***84—Paint-Fallert complex, 4 to 12 percent slopes*****Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,400 to 6,200 feet

*Mean annual precipitation:* 8 to 11 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 70 to 80 days

***Map Unit Composition***

*Paint and similar soils:* 45 percent

*Fallert and similar soils:* 40 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of Paint Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 4 to 12 percent

*Depth to restrictive feature:* 10 to 20 inches to strongly cemented duripan

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 10

*Available water capacity (entire profile):* Very low (about 1.9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

#### **Typical profile**

A—0 to 10 inches; gravelly loam

Bkq—10 to 18 inches; very gravelly loam

2Bkqm—18 to 19 inches; cemented material

2Bkq1—19 to 28 inches; very gravelly sandy loam

2Bkq2—28 to 60 inches; extremely gravelly loamy coarse sand

### ***Characteristics of Fallert Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 4 to 12 percent

*Depth to restrictive feature:* 19 to 30 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* High

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

**Typical profile**

A—0 to 3 inches; gravelly loam

Bw—3 to 11 inches; very gravelly loam

Bkq1—11 to 27 inches; very gravelly sandy loam

2Bkq2—27 to 60 inches; extremely gravelly loamy coarse sand

***Dissimilar Minor Components***

- Simeroi soils—10 percent
- Paint soils, moderately deep to duripan—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***85—Paint-Whitecloud complex, 1 to 4 percent slopes******Map Unit Setting***

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 6,400 feet

*Mean annual precipitation:* 8 to 11 inches

*Mean annual air temperature:* 39 to 43 degrees F

*Frost-free period:* 65 to 75 days

***Map Unit Composition***

*Paint and similar soils:* 65 percent

*Whitecloud and similar soils:* 20 percent

*Dissimilar minor components:* 15 percent

***Characteristics of Paint Soil******Setting***

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects

***Properties and qualities***

*Parent material:* Alluvium derived from limestone

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 10 to 20 inches to strongly cemented duripan

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 10  
*Available water capacity (entire profile):* Very low (about 1.5 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7s  
*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

### **Typical profile**

A—0 to 8 inches; gravelly loam  
 Bkq—8 to 15 inches; very gravelly loam  
 2Bkqm—15 to 20 inches; cemented material  
 2Bkq1—20 to 28 inches; very gravelly sandy loam  
 2Bkq2—28 to 60 inches; extremely gravelly sand

## ***Characteristics of Whitecloud Soil***

### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Northeast  
*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Alluvium derived from limestone  
*Slope range:* 1 to 4 percent  
*Depth to restrictive feature:* 10 to 20 inches to strongly contrasting textural stratification  
*Drainage class:* Somewhat excessively drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Very low (about 1.7 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6s  
*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

### **Typical profile**

A—0 to 10 inches; gravelly loam  
 Bk—10 to 15 inches; extremely gravelly sandy loam  
 2Bkq—15 to 60 inches; extremely gravelly loamy sand

## ***Dissimilar Minor Components***

- Zer soils—10 percent
- Sparmo soils—3 percent
- Sparmo soils, thin surface—2 percent

## ***Major Use***

Rangeland

## ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## **86—Pancheri silt loam, 2 to 8 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 4,500 to 5,500 feet  
*Mean annual precipitation:* 8 to 11 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 80 to 110 days

### **Map Unit Composition**

*Pancheri and similar soils:* 80 percent  
*Dissimilar minor components:* 20 percent

### **Characteristics of Pancheri Soil**

#### **Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* East  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Loess  
*Slope range:* 2 to 8 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 7  
*Available water capacity (entire profile):* High (about 7.9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

#### **Typical profile**

A—0 to 4 inches; silt loam  
 Bw—4 to 9 inches; silt loam  
 Bk1—9 to 29 inches; silt loam  
 Bk2—29 to 60 inches; silt loam

### **Dissimilar Minor Components**

- Polatis soils—10 percent
- Tenno soils—5 percent

- Splittop soils—2 percent
- Menan soils—1 percent
- Playas—1 percent
- Rock outcrop—1 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***87—Pancheri-Polatis complex, 2 to 12 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 4,500 to 5,400 feet  
*Mean annual precipitation:* 9 to 11 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 80 to 110 days

### ***Map Unit Composition***

*Pancheri and similar soils:* 45 percent  
*Polatis and similar soils:* 30 percent  
*Dissimilar minor components:* 25 percent

### ***Characteristics of Pancheri Soil***

#### **Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Loess  
*Slope range:* 2 to 12 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 7  
*Available water capacity (entire profile):* High (about 7.9 inches)

**Interpretive groups***Land capability subclass (nonirrigated): 6e**Ecological site: LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)***Typical profile**

A—0 to 4 inches; silt loam

Bw—4 to 9 inches; silt loam

Bk1—9 to 29 inches; silt loam

Bk2—29 to 60 inches; silt loam

***Characteristics of Polatis Soil*****Setting***Landform: Lava plains**Downslope shape: Linear**Across-slope shape: Linear**Aspect (representative): Southeast**Aspect (range): All aspects***Properties and qualities***Parent material: Loess over basalt**Slope range: 2 to 12 percent**Depth to restrictive feature: 20 to 40 inches to lithic bedrock**Drainage class: Well drained**Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high**Flooding frequency: None**Ponding frequency: None**Seasonal high water table (minimum depth): More than 72 inches**Salinity (maximum): Very slightly saline (about 3 millimhos per centimeter)**Sodicity (maximum): Sodium adsorption ratio about 3**Available water capacity (entire profile): Moderate (about 7.4 inches)***Interpretive groups***Land capability subclass (nonirrigated): 6c**Ecological site: LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)***Typical profile**

A—0 to 3 inches; silt loam

Bk1—3 to 26 inches; silt loam

Bk2—26 to 39 inches; silt loam

2R—39 to 49 inches; unweathered bedrock

***Dissimilar Minor Components***

- Splittop soils—10 percent
- Rock outcrop—5 percent
- Tenno soils, very gravelly subsoil—5 percent
- Tenno soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”



“Wildlife Habitat”

“Engineering”

“Soil Properties”

### **88—Playas, 0 to 1 percent slopes**

*Description:* Generally dry, nearly level lake plains in the lowest part of closed depressional areas, such as those on intermontane basin floors

*Other features:* Temporarily ponded primarily as a result of precipitation and runoff

### **89—Polatis silt loam, 0 to 4 percent slopes**

#### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,600 to 4,700 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 80 to 110 days

#### **Map Unit Composition**

*Polatis and similar soils:* 90 percent

*Dissimilar minor components:* 10 percent

#### **Characteristics of Polatis Soil**

##### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

##### **Properties and qualities**

*Parent material:* Loess over basalt

*Slope range:* 0 to 4 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Very slightly saline (about 3 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 7

*Available water capacity (entire profile):* Moderate (about 6.8 inches)

##### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Land capability subclass (irrigated):* 3e

##### **Typical profile**

A—0 to 5 inches; silt loam

Bk—5 to 34 inches; silt loam

2R—34 to 44 inches; unweathered bedrock

### ***Dissimilar Minor Components***

- Pancheri soils—5 percent
- Tenno soils—5 percent

### ***Major Use***

Irrigated cropland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***90—Portino-Thornock complex, 1 to 4 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,400 to 4,700 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 46 to 48 degrees F

*Frost-free period:* 100 to 120 days

### ***Map Unit Composition***

*Portino and similar soils:* 55 percent

*Thornock and similar soils:* 30 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of Portino Soil***

#### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Silty alluvium and/or loess over basalt

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Moderate (about 5.7 inches)

**Interpretive groups***Land capability subclass (nonirrigated): 6s**Land capability subclass (irrigated): 2e**Ecological site: LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)***Typical profile**

A—0 to 4 inches; loam

Bk—4 to 29 inches; silt loam

2R—29 to 39 inches; unweathered bedrock

***Characteristics of Thornock Soil*****Setting***Landform: Lava plains**Downslope shape: Linear**Across-slope shape: Linear**Aspect (representative): Southwest**Aspect (range): All aspects***Properties and qualities***Parent material: Mixed alluvium and loess over basalt**Slope range: 1 to 4 percent**Depth to restrictive feature: 10 to 20 inches to lithic bedrock**Drainage class: Well drained**Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high**Flooding frequency: None**Ponding frequency: None**Seasonal high water table (minimum depth): More than 72 inches**Salinity (maximum): Nonsaline (about 1 millimho per centimeter)**Sodicity (maximum): Sodium adsorption ratio about 5**Available water capacity (entire profile): Low (about 2.6 inches)***Interpretive groups***Land capability subclass (nonirrigated): 6s**Land capability subclass (irrigated): 4s**Ecological site: SHALLOW LOAMY 8-12 ARTRT/PSSPS (R011AY003ID)***Typical profile**

A1—0 to 5 inches; stony loam

A2—5 to 10 inches; silt loam

Bk—10 to 16 inches; cobbly loam

R—16 to 26 inches; unweathered bedrock

***Dissimilar Minor Components***

- Portino soils, shallow to duripan—5 percent
- Portino soils, moderately deep to duripan—5 percent
- Portino soils, deep—5 percent

***Major Uses***

Irrigated cropland, rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## **91—Riverlost-Frymire complex, 5 to 50 percent slopes**

### **Map Unit Setting**

*General landscape:* Foothills  
*Major land resource area (MLRA):* 12  
*Elevation:* 6,000 to 8,500 feet  
*Mean annual precipitation:* 14 to 16 inches  
*Mean annual air temperature:* 38 to 42 degrees F  
*Frost-free period:* 50 to 70 days

### **Map Unit Composition**

*Riverlost and similar soils:* 45 percent  
*Frymire and similar soils:* 40 percent  
*Dissimilar minor components:* 15 percent

### **Characteristics of Riverlost Soil**

#### **Setting**

*Landform:* Hillslopes  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* East  
*Aspect (range):* Northeast to southeast (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from tuff and/or andesite  
*Slope range:* 5 to 40 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately low  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 4  
*Available water capacity (entire profile):* High (about 9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e  
*Ecological site:* CLAYEY SOUTH SLOPE 12-16 ARAR8/PSSPS  
 (R012XY029ID)

#### **Typical profile**

A—0 to 5 inches; cobbly silt loam  
 Bt1—5 to 16 inches; silty clay loam  
 Bt2—16 to 26 inches; silty clay loam  
 Btk—26 to 34 inches; clay loam  
 Bk1—34 to 48 inches; very cobbly clay loam  
 Bk2—48 to 60 inches; gravelly sandy loam

### ***Characteristics of Frymire Soil***

#### **Setting**

*Landform:* Hillslopes

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* Northeast to southeast (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from andesite

*Slope range:* 15 to 50 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Sodium adsorption ratio about 2

*Available water capacity (entire profile):* Moderate (about 5.9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 12-16 ARTRV/FEID-PSSPS (R012XY012ID)

#### **Typical profile**

A1—0 to 4 inches; very cobbly clay loam

A2—4 to 15 inches; very cobbly silty clay loam

Bt1—15 to 31 inches; very cobbly clay

Bt2—31 to 52 inches; very cobbly clay

BC—52 to 61 inches; cobbly clay loam

### ***Dissimilar Minor Components***

- Howcan soils—10 percent
- Hutchley soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***92—Riverlost-Grouseville complex, 5 to 60 percent slopes***

### **Map Unit Setting**

*General landscape:* Mountains, foothills

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 8,500 feet  
*Mean annual precipitation:* 13 to 15 inches  
*Mean annual air temperature:* 37 to 43 degrees F  
*Frost-free period:* 40 to 70 days

### **Map Unit Composition**

*Riverlost and similar soils:* 60 percent  
*Grouseville and similar soils:* 20 percent  
*Dissimilar minor components:* 20 percent

### **Characteristics of Riverlost Soil**

#### **Setting**

*Landform:* Hillslopes, mountain slopes  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* North  
*Aspect (range):* West to east (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from tuff and/or andesite  
*Slope range:* 5 to 40 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately low  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 4  
*Available water capacity (entire profile):* High (about 9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e  
*Ecological site:* CLAYEY SOUTH SLOPE 12-16 ARAR8/PSSPS (R012XY029ID)

#### **Typical profile**

A—0 to 5 inches; cobbly silt loam  
Bt1—5 to 16 inches; silty clay loam  
Bt2—16 to 26 inches; silty clay loam  
Btk—26 to 34 inches; clay loam  
Bk1—34 to 48 inches; very cobbly clay loam  
Bk2—48 to 60 inches; gravelly sandy loam

### **Characteristics of Grouseville Soil**

#### **Setting**

*Landform:* Hillslopes, mountain slopes  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* North  
*Aspect (range):* West to east (clockwise)

#### **Properties and qualities**

*Parent material:* Slope alluvium and/or colluvium derived from tuff and/or andesite  
*Slope range:* 15 to 60 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very high (about 11.1 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* LOAMY 16-22 ARTRV/FEID (R012XY021ID)

### **Typical profile**

A—0 to 7 inches; silt loam

Bt—7 to 33 inches; clay

Btk—33 to 60 inches; clay loam

### ***Dissimilar Minor Components***

- Frymire soils, nonskeletal subsoil—5 percent
- Hagenbarth soils—5 percent
- Hutchley soils—5 percent
- Rock outcrop—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***93—Riverlost-Soen complex, 5 to 40 percent slopes***

### **Map Unit Setting**

*General landscape:* Foothills

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 7,500 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 40 to 44 degrees F

*Frost-free period:* 60 to 80 days

### ***Map Unit Composition***

*Riverlost and similar soils:* 55 percent

*Soen and similar soils:* 30 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of Riverlost Soil***

#### **Setting**

*Landform:* Hillslopes

*Downslope shape:* Linear

*Across-slope shape:* Linear  
*Aspect (representative):* South  
*Aspect (range):* Southeast to southwest (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from tuff and/or andesite  
*Slope range:* 5 to 40 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately low  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 4  
*Available water capacity (entire profile):* High (about 9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e  
*Ecological site:* CLAYEY SOUTH SLOPE 12-16 ARAR8/PSSPS (R012XY029ID)

#### **Typical profile**

A—0 to 5 inches; cobbly silt loam  
 Bt1—5 to 16 inches; silty clay loam  
 Bt2—16 to 26 inches; silty clay loam  
 Btk—26 to 34 inches; clay loam  
 Bk1—34 to 48 inches; very cobbly clay loam  
 Bk2—48 to 60 inches; gravelly sandy loam

### ***Characteristics of Soen Soil***

#### **Setting**

*Landform:* Fan remnants, hillslopes  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* South  
*Aspect (range):* Southeast to southwest (clockwise)

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 5 to 30 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately low  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Very high (about 10.2 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)



**Typical profile**

A—0 to 7 inches; clay loam

Btk—7 to 22 inches; silty clay loam

Bk—22 to 60 inches; silt loam

***Dissimilar Minor Components***

- Riverlost soils, moderately deep—10 percent
- Justesen soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***94—Rubble land-Milligan complex, 60 to 75 percent slopes******Map Unit Setting***

*Major land resource area (MLRA):* 10

*Elevation:* 6,000 to 7,000 feet

*Mean annual precipitation:* 12 to 18 inches

*Mean annual air temperature:* 40 to 44 degrees F

*Frost-free period:* 60 to 90 days

***Map Unit Composition***

*Rubble land:* 40 percent

*Milligan and similar soils:* 35 percent

*Dissimilar minor components:* 25 percent

***Characteristics of Rubble Land***

*Description:* Angular cobbles, stones, and boulders of varying geologic origin

*Position on landscape:* Base of rock outcroppings, cliffs, mountains, or very steep rock slopes

***Characteristics of Milligan Soil******Setting***

*Landform:* Mountain slopes

*Downslope shape:* Concave

*Across-slope shape:* Concave

*Aspect (representative):* Southeast

*Aspect (range):* East to southeast (clockwise)

***Properties and qualities***

*Parent material:* Colluvium derived from conglomerate and/or sandstone

*Slope range:* 60 to 75 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* High

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 2.9 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SOUTH SLOPE GRAVELLY 12-16 ARTRV/PSSPS  
(R010AY009ID)

### **Typical profile**

A—0 to 10 inches; extremely cobbly loam

Bw—10 to 28 inches; extremely gravelly loam

C—28 to 38 inches; fragmental material

2R—38 to 48 inches; unweathered bedrock

### ***Dissimilar Minor Components***

- Rock outcrop—10 percent
- Adek soils—5 percent
- Povey soils—5 percent
- Vitale soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***95—Sanfelipe gravelly loam, 4 to 8 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,400 to 6,400 feet

*Mean annual precipitation:* 10 to 12 inches

*Mean annual air temperature:* 40 to 42 degrees F

*Frost-free period:* 70 to 80 days

### ***Map Unit Composition***

*Sanfelipe and similar soils:* 85 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of Sanfelipe Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 4 to 8 percent

*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.8 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Land capability subclass (irrigated):* 3e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A—0 to 3 inches; gravelly loam

Bkq1—3 to 42 inches; very gravelly loam

Bkq2—42 to 60 inches; extremely gravelly sandy loam

#### ***Dissimilar Minor Components***

- Stan soils—10 percent
- Sparmo soils—5 percent

#### ***Major Uses***

Irrigated cropland, rangeland

#### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

### ***96—Sanfelipe gravelly loam, 8 to 12 percent slopes***

#### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,400 to 6,400 feet  
*Mean annual precipitation:* 10 to 12 inches  
*Mean annual air temperature:* 40 to 42 degrees F  
*Frost-free period:* 70 to 80 days

### **Map Unit Composition**

*Sanfelipe and similar soils:* 90 percent  
*Dissimilar minor components:* 10 percent

### **Characteristics of Sanfelipe Soil**

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southwest  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 8 to 12 percent  
*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Low (about 4.8 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Land capability subclass (irrigated):* 4e  
*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A—0 to 3 inches; gravelly loam  
 Bkq1—3 to 42 inches; very gravelly loam  
 Bkq2—42 to 60 inches; extremely gravelly sandy loam

### **Dissimilar Minor Component**

- Breitenbach soils—10 percent

### **Major Uses**

Irrigated cropland, rangeland

### **Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Crops and Pasture”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

**97—Sanfelipe-McCaleb complex, 0 to 4 percent slopes****Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 6,300 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 70 to 80 days

**Map Unit Composition**

*Sanfelipe and similar soils:* 65 percent

*McCaleb and similar soils:* 25 percent

*Dissimilar minor components:* 10 percent

**Characteristics of Sanfelipe Soil****Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 4 percent

*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 5.4 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A—0 to 15 inches; loam

Bkq1—15 to 30 inches; very gravelly loam

Bkq2—30 to 60 inches; very gravelly loam

**Characteristics of McCaleb Soil****Setting**

*Landform:* Terraces

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Alluvium derived from sedimentary rock

*Slope range:* 0 to 4 percent

*Depth to restrictive feature:* 5 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 10

*Available water capacity (entire profile):* High (about 9.7 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SALINE FLAT <8 ATGA/ACHY (R012XY003ID)

### **Typical profile**

A—0 to 5 inches; silt loam

Bk—5 to 60 inches; silt loam

### ***Dissimilar Minor Component***

- Sparmo soils—10 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***98—Sanfelipe-Simeroi complex, 1 to 4 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,300 to 5,700 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 41 to 44 degrees F

*Frost-free period:* 70 to 80 days

### **Map Unit Composition**

*Sanfelipe and similar soils:* 70 percent

*Simeroi and similar soils:* 20 percent

*Dissimilar minor components:* 10 percent

### ***Characteristics of Sanfelipe Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape*: Linear  
*Aspect (representative)*: South  
*Aspect (range)*: All aspects

**Properties and qualities**

*Parent material*: Mixed alluvium  
*Slope range*: 1 to 4 percent  
*Depth to restrictive feature*: 2 to 15 inches to high content of carbonates  
*Drainage class*: Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat)*: Moderately high  
*Flooding frequency*: None  
*Ponding frequency*: None  
*Seasonal high water table (minimum depth)*: More than 72 inches  
*Salinity (maximum)*: Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum)*: Nonsodic  
*Available water capacity (entire profile)*: Low (about 4.8 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated)*: 6e  
*Land capability subclass (irrigated)*: 3e  
*Ecological site*: GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A—0 to 3 inches; gravelly loam  
Bkq1—3 to 42 inches; very gravelly loam  
Bkq2—42 to 60 inches; extremely gravelly sandy loam

***Characteristics of Simeroi Soil*****Setting**

*Landform*: Fan remnants  
*Downslope shape*: Linear  
*Across-slope shape*: Linear  
*Aspect (representative)*: South  
*Aspect (range)*: All aspects

**Properties and qualities**

*Parent material*: Alluvium derived from limestone  
*Slope range*: 1 to 4 percent  
*Depth to restrictive feature*: 2 to 15 inches to high content of carbonates  
*Drainage class*: Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat)*: Moderately high  
*Flooding frequency*: None  
*Ponding frequency*: None  
*Seasonal high water table (minimum depth)*: More than 72 inches  
*Salinity (maximum)*: Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum)*: Sodium adsorption ratio about 3  
*Available water capacity (entire profile)*: Low (about 4.4 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated)*: 6e  
*Land capability subclass (irrigated)*: 3e  
*Ecological site*: GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A—0 to 4 inches; gravelly silt loam  
Bk—4 to 26 inches; very gravelly loam  
Bkq—26 to 60 inches; very gravelly sandy loam

***Dissimilar Minor Component***

- Elbow soils—10 percent

***Major Uses***

Irrigated cropland, rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***99—Simeroi gravelly silt loam, 2 to 5 percent slopes******Map Unit Setting***

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,000 to 6,000 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 42 to 44 degrees F

*Frost-free period:* 70 to 80 days

***Map Unit Composition***

*Simeroi and similar soils:* 85 percent

*Dissimilar minor components:* 15 percent

***Characteristics of Simeroi Soil******Setting***

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

***Properties and qualities***

*Parent material:* Alluvium derived from limestone

*Slope range:* 2 to 5 percent

*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.4 inches)



**Interpretive groups**

*Land capability subclass (nonirrigated): 6e*

*Ecological site: GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)*

**Typical profile**

A—0 to 4 inches; gravelly silt loam

Bk—4 to 26 inches; very gravelly loam

Bkq—26 to 60 inches; very gravelly sandy loam

***Dissimilar Minor Components***

- Sparmo soils—10 percent
- McCaleb soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***100—Simeroi gravelly silt loam, 5 to 12 percent slopes******Map Unit Setting***

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,200 to 6,300 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 42 to 44 degrees F

*Frost-free period:* 70 to 80 days

***Map Unit Composition***

*Simeroi and similar soils:* 75 percent

*Dissimilar minor components:* 25 percent

***Characteristics of Simeroi Soil*****Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 5 to 12 percent

*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.4 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

### **Typical profile**

A—0 to 4 inches; gravelly silt loam

Bk—4 to 26 inches; very gravelly loam

Bkq—26 to 60 inches; very gravelly sandy loam

### ***Dissimilar Minor Components***

- Sanfelipe soils—10 percent
- Sparmo soils—10 percent
- Zer soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***101—Simeroi gravelly silt loam, 8 to 12 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,500 to 5,800 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 42 to 44 degrees F

*Frost-free period:* 70 to 80 days

### ***Map Unit Composition***

*Simeroi and similar soils:* 85 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of Simeroi Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 8 to 12 percent

*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.4 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Land capability subclass (irrigated):* 4e

### **Typical profile**

A—0 to 4 inches; gravelly silt loam

Bk—4 to 26 inches; very gravelly loam

Bkq—26 to 60 inches; very gravelly sandy loam

### ***Dissimilar Minor Components***

- Breitenbach soils—10 percent
- Sanfelipe soils—5 percent

### ***Major Use***

Irrigated cropland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***102—Simeroi gravelly silt loam, cool, 2 to 25 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains, foothills

*Major land resource area (MLRA):* 12

*Elevation:* 5,300 to 6,500 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 60 to 80 days

### **Map Unit Composition**

*Simeroi, cool, and similar soils:* 85 percent

*Dissimilar minor components:* 15 percent

### **Characteristics of Simeroi Soil, Cool**

#### **Setting**

*Landform:* Fan remnants, hillslopes

*Geomorphic position (two-dimensional):* Toeslopes

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* North to east (clockwise)

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 2 to 25 percent

*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY (R012XY007ID)

#### **Typical profile**

A—0 to 4 inches; gravelly silt loam

Bk—4 to 26 inches; very gravelly loam

Bkq—26 to 60 inches; very gravelly sandy loam

### **Dissimilar Minor Components**

- Zeale soils—10 percent
- Paint soils—5 percent

### **Major Use**

Rangeland

### **Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## **103—Simeroi gravelly silt loam, dry, 10 to 30 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains, foothills

*Major land resource area (MLRA):* 12

*Elevation:* 5,400 to 6,200 feet

*Mean annual precipitation:* 8 to 10 inches

*Mean annual air temperature:* 42 to 44 degrees F

*Frost-free period:* 70 to 80 days

### **Map Unit Composition**

*Simeroi, dry, and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

### **Characteristics of Simeroi Soil, Dry**

#### **Setting**

*Landform:* Fan remnants, hillslopes

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* South to west (clockwise)

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 10 to 30 percent

*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

#### **Typical profile**

A—0 to 4 inches; gravelly silt loam

Bk—4 to 26 inches; very gravelly loam

Bkq—26 to 60 inches; very gravelly sandy loam

### **Dissimilar Minor Components**

- Ike soils—10 percent
- McCaleb soils—5 percent
- Sparmo soils—5 percent

**Major Use**

Rangeland

**Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

**104—Simeroi-Paint complex, 2 to 8 percent slopes****Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 12  
*Elevation:* 5,500 to 6,400 feet  
*Mean annual precipitation:* 9 to 11 inches  
*Mean annual air temperature:* 42 to 44 degrees F  
*Frost-free period:* 70 to 80 days

**Map Unit Composition**

*Simeroi and similar soils:* 60 percent  
*Paint and similar soils:* 25 percent  
*Dissimilar minor components:* 15 percent

**Characteristics of Simeroi Soil****Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Northeast  
*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Alluvium derived from limestone  
*Slope range:* 2 to 8 percent  
*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Low (about 4.4 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A—0 to 4 inches; gravelly silt loam

Bk—4 to 26 inches; very gravelly loam

Bkq—26 to 60 inches; very gravelly sandy loam

***Characteristics of Paint Soil*****Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 2 to 8 percent

*Depth to restrictive feature:* 10 to 20 inches to strongly cemented duripan

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 10

*Available water capacity (entire profile):* Very low (about 2 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A—0 to 11 inches; gravelly loam

Bkq—11 to 19 inches; very gravelly loam

2Bkqm—19 to 20 inches; cemented material

2Bkq—20 to 60 inches; extremely gravelly loamy coarse sand

***Dissimilar Minor Components***

- Fallert soils—5 percent
- Simeroi soils, moderately deep to duripan—5 percent
- Sparmo soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## **105—Simeroi complex, 5 to 30 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,400 to 6,200 feet

*Mean annual precipitation:* 8 to 10 inches

*Mean annual air temperature:* 42 to 44 degrees F

*Frost-free period:* 70 to 80 days

### **Map Unit Composition**

*Simeroi, dry, and similar soils:* 50 percent

*Simeroi and similar soils:* 30 percent

*Dissimilar minor components:* 20 percent

### **Characteristics of Simeroi Soil, Dry**

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* North to southeast (clockwise)

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 5 to 30 percent

*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

#### **Typical profile**

A—0 to 4 inches; gravelly silt loam

Bk—4 to 26 inches; very gravelly loam

Bkq—26 to 60 inches; very gravelly sandy loam

### **Characteristics of Simeroi Soil**

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* North to southeast (clockwise)

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 5 to 30 percent



*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.4 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

### **Typical profile**

A—0 to 4 inches; gravelly silt loam

Bk—4 to 26 inches; very gravelly loam

Bkq—26 to 60 inches; very gravelly sandy loam

### ***Dissimilar Minor Components***

- Sanfelipe soils—10 percent
- Sparmo soils—10 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***106—Simeroi-Sparmo complex, 4 to 12 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,400 to 6,000 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 41 to 44 degrees F

*Frost-free period:* 70 to 90 days

### ***Map Unit Composition***

*Simeroi and similar soils:* 60 percent

*Sparmo and similar soils:* 25 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of Simeroi Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear  
*Aspect (representative):* South  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone  
*Slope range:* 4 to 12 percent  
*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Low (about 4.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Land capability subclass (irrigated):* 4e  
*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A—0 to 4 inches; gravelly silt loam  
 Bk—4 to 26 inches; very gravelly loam  
 Bkq—26 to 60 inches; very gravelly sandy loam

### ***Characteristics of Sparmo Soil***

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* South  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 4 to 12 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Very slightly saline (about 3 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 5  
*Available water capacity (entire profile):* Moderate (about 6.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Land capability subclass (irrigated):* 3e  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)

#### **Typical profile**

A—0 to 9 inches; silt loam  
 Bk1—9 to 22 inches; silt loam  
 Bk2—22 to 29 inches; gravelly loam

Bk3—29 to 40 inches; silt loam

2Bk4—40 to 60 inches; very gravelly loam

### ***Dissimilar Minor Components***

- Paint soils, moderately deep to duripan—5 percent
- Sanfelipe soils—5 percent
- Whiteknob soils—5 percent

### ***Major Uses***

Irrigated cropland, irrigated pastureland, rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***107—Simeroi-Slide-McCaleb complex, 1 to 6 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,000 to 6,200 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 44 degrees F

*Frost-free period:* 70 to 80 days

### ***Map Unit Composition***

*Simeroi and similar soils:* 40 percent

*Slide and similar soils:* 35 percent

*McCaleb and similar soils:* 15 percent

*Dissimilar minor components:* 10 percent

### ***Characteristics of Simeroi Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* West

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 1 to 6 percent

*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.4 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

### **Typical profile**

A—0 to 4 inches; gravelly silt loam

Bk—4 to 26 inches; very gravelly loam

Bkq—26 to 60 inches; very gravelly sandy loam

### ***Characteristics of Slide Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* West

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed slope alluvium

*Slope range:* 1 to 6 percent

*Depth to restrictive feature:* 5 to 18 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.4 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)

### **Typical profile**

A—0 to 2 inches; gravelly loam

Bk—2 to 16 inches; very gravelly sandy loam

Bkq—16 to 60 inches; extremely gravelly sandy loam

### ***Characteristics of McCaleb Soil***

#### **Setting**

*Landform:* Terraces

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* West

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Alluvium derived from sedimentary rock

*Slope range:* 1 to 6 percent

*Depth to restrictive feature:* 5 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Slightly saline (about 5 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 10

*Available water capacity (entire profile):* High (about 8.1 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SALINE FLAT <8 ATGA/ACHY (R012XY003ID)

### **Typical profile**

A—0 to 3 inches; loam

Bw—3 to 13 inches; gravelly loam

Bk1—13 to 45 inches; loam

Bk2—45 to 60 inches; gravelly loam

### ***Dissimilar Minor Components***

- Whiteknob soils—5 percent
- Zer soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***108—Simeroi-Bealand association, 30 to 70 percent slopes***

### **Map Unit Setting**

*General landscape:* Foothills

*Major land resource area (MLRA):* 12

*Elevation:* 5,500 to 7,500 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 39 to 44 degrees F

*Frost-free period:* 45 to 80 days

### ***Map Unit Composition***

*Simeroi and similar soils:* 40 percent

*Bealand and similar soils:* 40 percent

*Dissimilar minor components:* 20 percent

### ***Characteristics of Simeroi Soil***

### **Setting**

*Landform:* Hillslopes

*Downslope shape:* Linear

*Across-slope shape:* Convex  
*Aspect (representative):* East  
*Aspect (range):* Northeast to southeast (clockwise)

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone  
*Slope range:* 30 to 50 percent  
*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Low (about 4.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY  
 (R012XY007ID)

#### **Typical profile**

A—0 to 4 inches; gravelly silt loam  
 Bk—4 to 26 inches; very gravelly loam  
 Bkq—26 to 60 inches; very gravelly sandy loam

### ***Characteristics of Bealand Soil***

#### **Setting**

*Landform:* Hillslopes  
*Downslope shape:* Convex  
*Across-slope shape:* Convex  
*Aspect (representative):* West  
*Aspect (range):* Southwest to northwest (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone  
*Slope range:* 30 to 70 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Low (about 4.3 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)

#### **Typical profile**

A—0 to 5 inches; gravelly loam  
 BAk—5 to 10 inches; gravelly loam  
 Bk—10 to 39 inches; very gravelly loam  
 Bkq—39 to 60 inches; very gravelly loam

***Dissimilar Minor Components***

- Ike soils—10 percent
- Zeale soils—5 percent
- Rock outcrop—4 percent
- Adek soils—1 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

***109—Slide gravelly loam, 2 to 10 percent slopes******Map Unit Setting***

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 4,500 to 5,500 feet

*Mean annual precipitation:* 7 to 9 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 70 to 80 days

***Map Unit Composition***

*Slide and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

***Characteristics of Slide Soil******Setting***

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* South

*Aspect (range):* All aspects

***Properties and qualities***

*Parent material:* Mixed slope alluvium

*Slope range:* 2 to 10 percent

*Depth to restrictive feature:* 5 to 18 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 3.8 inches)

**Interpretive groups***Land capability subclass (nonirrigated): 6e**Ecological site: SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)***Typical profile**

A—0 to 3 inches; gravelly loam

Bw—3 to 9 inches; very gravelly sandy loam

Bk—9 to 18 inches; very gravelly sandy loam

Bkq1—18 to 32 inches; extremely gravelly sandy loam

Bkq2—32 to 60 inches; extremely gravelly loamy sand

***Dissimilar Minor Components***

- McCaleb soils—10 percent
- Simeroi soils, dry—10 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***110—Snowslide gravelly loam, 2 to 10 percent slopes******Map Unit Setting****General landscape:* Plains*Major land resource area (MLRA):* 12*Elevation:* 4,500 to 5,500 feet*Mean annual precipitation:* 8 to 10 inches*Mean annual air temperature:* 41 to 43 degrees F*Frost-free period:* 60 to 80 days***Map Unit Composition****Snowslide and similar soils:* 80 percent*Dissimilar minor components:* 20 percent***Characteristics of Snowslide Soil*****Setting***Landform:* Fan remnants*Downslope shape:* Linear*Across-slope shape:* Linear*Aspect (representative):* South*Aspect (range):* All aspects**Properties and qualities***Parent material:* Mixed slope alluvium and/or colluvium derived from limestone and/or quartzite*Slope range:* 2 to 10 percent*Depth to restrictive feature:* None within a depth of 60 inches



*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 8

*Available water capacity (entire profile):* Low (about 3 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)

### **Typical profile**

A—0 to 8 inches; gravelly loam

Bk1—8 to 14 inches; very gravelly loam

Bk2—14 to 60 inches; very gravelly loam

### ***Dissimilar Minor Components***

- Sparmo soils—10 percent
- Fulwider soils—5 percent
- Zer soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***111—Snowslide gravelly loam, 5 to 20 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 4,500 to 5,500 feet

*Mean annual precipitation:* 8 to 10 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 60 to 80 days

### ***Map Unit Composition***

*Snowslide and similar soils:* 85 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of Snowslide Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* South

*Aspect (range):* Southeast to southwest (clockwise)

### **Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium derived from limestone and/or quartzite

*Slope range:* 5 to 20 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 8

*Available water capacity (entire profile):* Low (about 3.2 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8  
(R012XY009ID)

### **Typical profile**

A—0 to 3 inches; gravelly loam

Bk1—3 to 19 inches; very gravelly loam

Bk2—19 to 60 inches; extremely gravelly sandy loam

### ***Dissimilar Minor Components***

- Zer soils—10 percent
- Sparmo soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***112—Snowslide-Zer complex, 1 to 5 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,500 to 6,200 feet

*Mean annual precipitation:* 8 to 10 inches

*Mean annual air temperature:* 40 to 43 degrees F

*Frost-free period:* 70 to 80 days

### **Map Unit Composition**

*Snowslide and similar soils:* 80 percent

*Zer and similar soils:* 15 percent

*Dissimilar minor components:* 5 percent

### **Characteristics of Snowslide Soil**

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium derived from limestone and/or quartzite

*Slope range:* 1 to 5 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 8

*Available water capacity (entire profile):* Very low (about 2.9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7s

*Ecological site:* SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)

#### **Typical profile**

A—0 to 7 inches; gravelly loam

Bk1—7 to 13 inches; very gravelly loam

Bk2—13 to 60 inches; extremely gravelly sandy loam

### **Characteristics of Zer Soil**

#### **Setting**

*Landform:* Drainageways, fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium

*Slope range:* 1 to 5 percent

*Depth to restrictive feature:* 40 to 60 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 3.7 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

### **Typical profile**

A1—0 to 5 inches; gravelly loam

A2—5 to 10 inches; very gravelly loam

Bk1—10 to 22 inches; very gravelly loam

Bk2—22 to 41 inches; extremely gravelly sandy loam

2Bk3—41 to 60 inches; extremely gravelly loamy sand

### ***Dissimilar Minor Component***

- Sparmo soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***113—Snowslide-Zer complex, 5 to 35 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 6,200 to 6,600 feet

*Mean annual precipitation:* 8 to 10 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 60 to 70 days

### ***Map Unit Composition***

*Snowslide and similar soils:* 35 percent

*Zer and similar soils:* 30 percent

*Snowslide, low precipitation, and similar soils:* 20 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of Snowslide Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* Southeast to west (clockwise)

**Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium derived from limestone and/or quartzite

*Slope range:* 5 to 35 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 8

*Available water capacity (entire profile):* Low (about 2.5 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)

**Typical profile**

A—0 to 3 inches; gravelly loam

Bk1—3 to 9 inches; very gravelly loam

Bk2—9 to 60 inches; very gravelly sandy loam

***Characteristics of Zer Soil*****Setting**

*Landform:* Drainageways, fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* Southeast to west (clockwise)

**Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium

*Slope range:* 5 to 35 percent

*Depth to restrictive feature:* 40 to 60 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 3.7 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* WINDSWEPT 8-11 ARFR4/POSE (R012XY006ID)

**Typical profile**

A1—0 to 5 inches; gravelly loam

A2—5 to 10 inches; very gravelly loam

Bk1—10 to 22 inches; very gravelly loam

Bk2—22 to 41 inches; extremely gravelly sandy loam

2Bk3—41 to 60 inches; extremely gravelly loamy sand

### ***Characteristics of Snowslide Soil, Low Precipitation***

#### **Setting**

*Landform:* Fan remnants, ridges

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* Southeast to west (clockwise)

#### **Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium derived from limestone and/or quartzite

*Slope range:* 5 to 35 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 8

*Available water capacity (entire profile):* Low (about 2.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)

#### **Typical profile**

A—0 to 8 inches; gravelly loam

Bk—8 to 60 inches; extremely gravelly sandy loam

#### ***Dissimilar Minor Components***

- Goosebury soils—10 percent
- Fulwider soils, low precipitation—5 percent

#### ***Major Use***

Rangeland

#### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

### ***114—Soen clay loam, 0 to 4 percent slopes***

#### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,400 to 5,600 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 41 to 44 degrees F

*Frost-free period:* 70 to 80 days

### **Map Unit Composition**

*Soen and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

### **Characteristics of Soen Soil**

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 4 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very high (about 10.2 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 3c

*Land capability subclass (irrigated):* 3c

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)

#### **Typical profile**

A—0 to 7 inches; clay loam

Btk—7 to 22 inches; silty clay loam

Bk—22 to 60 inches; silt loam

### **Dissimilar Minor Components**

- Soelberg soils—10 percent
- Techick soils—10 percent

### **Major Uses**

Irrigated cropland, rangeland

### **Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## **115—Soen-Justesen complex, 4 to 12 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 10  
*Elevation:* 5,500 to 5,800 feet  
*Mean annual precipitation:* 12 to 14 inches  
*Mean annual air temperature:* 41 to 44 degrees F  
*Frost-free period:* 70 to 80 days

### **Map Unit Composition**

*Soen and similar soils:* 70 percent  
*Justesen and similar soils:* 25 percent  
*Dissimilar minor components:* 5 percent

### **Characteristics of Soen Soil**

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* East  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 4 to 12 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately low  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Very high (about 10.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 3e  
*Land capability subclass (irrigated):* 4e  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)

#### **Typical profile**

A—0 to 7 inches; clay loam  
 Btk—7 to 22 inches; silty clay loam  
 Bk—22 to 60 inches; silt loam

### **Characteristics of Justesen Soil**

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* East  
*Aspect (range):* All aspects



**Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 4 to 12 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* High (about 9.6 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 3e

*Land capability subclass (irrigated):* 4e

*Ecological site:* SANDY LOAM 12-16 ARTRT/PSSPS (R010AY022ID)

**Typical profile**

A—0 to 10 inches; loam

Bt—10 to 25 inches; silty clay loam

Bk—25 to 60 inches; loam

***Dissimilar Minor Component***

- Soelberg soils—5 percent

***Major Uses***

Irrigated cropland, rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***116—Sparmo silt loam, 1 to 4 percent slopes*****Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 4,800 to 6,300 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 41 to 44 degrees F

*Frost-free period:* 70 to 90 days

***Map Unit Composition***

*Sparmo and similar soils:* 75 percent

*Dissimilar minor components:* 25 percent

### ***Characteristics of Sparmo Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* South

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Very slightly saline (about 3 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Moderate (about 6.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Land capability subclass (irrigated):* 3e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)

#### **Typical profile**

A—0 to 9 inches; silt loam

Bk1—9 to 22 inches; silt loam

Bk2—22 to 29 inches; gravelly loam

Bk3—29 to 40 inches; silt loam

2Bk4—40 to 60 inches; very gravelly loam

### ***Dissimilar Minor Components***

- Atomic soils—5 percent
- Simeroi soils—5 percent
- Sparmo soils, carbonatic subsoil—5 percent
- Zer soils—5 percent
- Sanfelipe soils—4 percent
- Zer soils, weakly cemented subsoil—1 percent

### ***Major Uses***

Irrigated cropland, irrigated pastureland, rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

**117—Sparmo-Bluedome complex, 1 to 4 percent slopes****Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,900 to 6,500 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 36 to 43 degrees F

*Frost-free period:* 40 to 70 days

**Map Unit Composition**

*Sparmo and similar soils:* 50 percent

*Bluedome and similar soils:* 35 percent

*Dissimilar minor components:* 15 percent

**Characteristics of Sparmo Soil****Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Very slightly saline (about 3 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Moderate (about 6.5 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)

**Typical profile**

A—0 to 9 inches; silt loam

Bk1—9 to 22 inches; silt loam

Bk2—22 to 29 inches; gravelly loam

Bk3—29 to 40 inches; silt loam

2Bk4—40 to 60 inches; very gravelly loam

**Characteristics of Bluedome Soil****Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 20 to 40 inches to strongly cemented duripan

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Low (about 3.6 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A—0 to 9 inches; loam

Bk—9 to 23 inches; loam

2Bkqm—23 to 24 inches; cemented material

2Bkq—24 to 60 inches; extremely gravelly sandy loam

***Dissimilar Minor Components***

- Paint soils—10 percent
- Zer soils, deep—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***118—Sparmo-Zer complex, 1 to 5 percent slopes*****Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,900 to 6,500 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 38 to 42 degrees F

*Frost-free period:* 60 to 70 days

***Map Unit Composition***

*Sparmo and similar soils:* 45 percent

*Zer and similar soils:* 45 percent

*Dissimilar minor components:* 10 percent

### ***Characteristics of Sparmo Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 1 to 5 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Very slightly saline (about 3 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Very high (about 10.3 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)

#### **Typical profile**

A—0 to 9 inches; silt loam

Bk1—9 to 22 inches; silt loam

Bk2—22 to 29 inches; gravelly loam

Bk3—29 to 40 inches; silt loam

2Bk4—40 to 60 inches; very gravelly loam

### ***Characteristics of Zer Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium

*Slope range:* 1 to 5 percent

*Depth to restrictive feature:* 20 to 40 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 3.8 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A1—0 to 2 inches; gravelly loam  
 A2—2 to 8 inches; gravelly loam  
 Bk1—8 to 14 inches; gravelly sandy loam  
 Bk2—14 to 25 inches; very gravelly sandy loam  
 2Bk3—25 to 60 inches; very gravelly loamy sand

***Dissimilar Minor Components***

- McCaleb soils—5 percent
- Sparmo soils, thick surface—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

***119—Splittop-Atomic complex, 0 to 8 percent slopes******Map Unit Setting***

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 4,600 to 5,400 feet  
*Mean annual precipitation:* 10 to 12 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 80 to 90 days

***Map Unit Composition***

*Splittop and similar soils:* 50 percent  
*Atomic and similar soils:* 30 percent  
*Dissimilar minor components:* 20 percent

***Characteristics of Splittop Soil*****Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* East  
*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Eolian deposits over basalt  
*Slope range:* 0 to 8 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 3.5 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

### **Typical profile**

A—0 to 3 inches; loam

Bw—3 to 8 inches; silt loam

Bk1—8 to 26 inches; silt loam

Bk2—26 to 32 inches; loam

2R—32 to 42 inches; unweathered bedrock

## ***Characteristics of Atomic Soil***

### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Mixed alluvium and/or loess over basalt

*Slope range:* 0 to 8 percent

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* High (about 7.7 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

### **Typical profile**

A—0 to 15 inches; loam

Bkq—15 to 34 inches; silt loam

Bk—34 to 46 inches; cobbly silt loam

2R—46 to 56 inches; unweathered bedrock

## ***Dissimilar Minor Components***

- Atomic soils, very deep—10 percent
- Atomic soils, sodic subsoil—5 percent
- Deuce soils—5 percent

## ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***120—Splittop-Coffee complex, 0 to 8 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 4,500 to 5,400 feet  
*Mean annual precipitation:* 9 to 12 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 70 to 110 days

### **Map Unit Composition**

*Splittop and similar soils:* 50 percent  
*Coffee and similar soils:* 30 percent  
*Dissimilar minor components:* 20 percent

### **Characteristics of Splittop Soil**

#### **Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* East  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Eolian deposits over basalt  
*Slope range:* 0 to 8 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Low (about 3.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

#### **Typical profile**

A—0 to 3 inches; loam  
 Bw—3 to 8 inches; silt loam



Bk1—8 to 26 inches; silt loam  
Bk2—26 to 32 inches; loam  
2R—32 to 42 inches; unweathered bedrock

### ***Characteristics of Coffee Soil***

#### **Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* East  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium over basalt  
*Slope range:* 0 to 8 percent  
*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 24  
*Available water capacity (entire profile):* Moderate (about 5.2 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

#### **Typical profile**

A—0 to 7 inches; silt loam  
Bk—7 to 25 inches; silt loam  
Bkq—25 to 48 inches; silty clay loam  
2R—48 to 58 inches; unweathered bedrock

### ***Dissimilar Minor Components***

- Coffee soils, very deep—10 percent
- Atomic soils, sodic subsoil—5 percent
- Deuce soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
“Recreation”  
“Wildlife Habitat”  
“Engineering”  
“Soil Properties”

## **121—Stan sandy loam, 1 to 4 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 5,200 to 5,400 feet

*Mean annual precipitation:* 10 to 13 inches

*Mean annual air temperature:* 40 to 44 degrees F

*Frost-free period:* 80 to 100 days

### **Map Unit Composition**

*Stan and similar soils:* 95 percent

*Dissimilar minor components:* 5 percent

### **Characteristics of Stan Soil**

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 30 to 50 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* High

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Moderate (about 5.2 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Land capability subclass (irrigated):* 3e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

#### **Typical profile**

A1—0 to 2 inches; sandy loam

A2—2 to 13 inches; loam

Bk1—13 to 33 inches; gravelly loam

Bk2—33 to 40 inches; gravelly sandy loam

2Bk3—40 to 60 inches; very gravelly loamy sand

### **Dissimilar Minor Component**

- Elbow soils—5 percent

### **Major Uses**

Irrigated cropland, irrigated pastureland, rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Crops and Pasture”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***122—Stan-Breitenbach complex, 1 to 4 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 12  
*Elevation:* 5,200 to 5,500 feet  
*Mean annual precipitation:* 10 to 13 inches  
*Mean annual air temperature:* 42 to 45 degrees F  
*Frost-free period:* 80 to 100 days

### ***Map Unit Composition***

*Stan and similar soils:* 55 percent  
*Breitenbach and similar soils:* 30 percent  
*Dissimilar minor components:* 15 percent

### ***Characteristics of Stan Soil***

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* South  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 1 to 4 percent  
*Depth to restrictive feature:* 30 to 50 inches to strongly contrasting textural stratification  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* High  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Low (about 4.8 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Land capability subclass (irrigated):* 3e

**Typical profile**

A1—0 to 2 inches; sandy loam  
 A2—2 to 13 inches; loam  
 Bk1—13 to 33 inches; gravelly loam  
 Bk2—33 to 40 inches; gravelly sandy loam  
 2Bk3—40 to 60 inches; very gravelly loamy sand

***Characteristics of Breitenbach Soil*****Setting**

*Landform*: Fan remnants  
*Downslope shape*: Linear  
*Across-slope shape*: Linear  
*Aspect (representative)*: South  
*Aspect (range)*: All aspects

**Properties and qualities**

*Parent material*: Mixed alluvium  
*Slope range*: 1 to 4 percent  
*Depth to restrictive feature*: 30 to 60 inches to strongly contrasting textural stratification  
*Drainage class*: Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat)*: Moderately high  
*Flooding frequency*: None  
*Ponding frequency*: None  
*Seasonal high water table (minimum depth)*: More than 72 inches  
*Salinity (maximum)*: Nonsaline  
*Sodicity (maximum)*: Sodium adsorption ratio about 1  
*Available water capacity (entire profile)*: Low (about 3.9 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated)*: 6c  
*Land capability subclass (irrigated)*: 3c

**Typical profile**

A—0 to 9 inches; loam  
 Bw—9 to 17 inches; gravelly sandy loam  
 2Bk—17 to 30 inches; very gravelly sandy loam  
 2Bkq1—30 to 34 inches; extremely gravelly sandy loam  
 3Bkq2—34 to 60 inches; extremely gravelly loamy sand

***Dissimilar Minor Components***

- Elbow soils—10 percent
- Paint soils—5 percent

***Major Use***

Irrigated cropland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

**123—Stan complex, 1 to 4 percent slopes****Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 5,200 to 5,300 feet

*Mean annual precipitation:* 10 to 13 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 80 to 100 days

**Map Unit Composition**

*Stan, loamy fine sand surface, and similar soils:* 70 percent

*Stan and similar soils:* 25 percent

*Dissimilar minor components:* 5 percent

**Characteristics of Stan Soil, Loamy Fine Sand Surface****Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* South

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 40 to 60 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* High

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.1 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Land capability subclass (irrigated):* 3e

*Ecological site:* SANDY 8-14 ARTRT/HECOC8-ACHY (R011AY014ID)

**Typical profile**

A1—0 to 4 inches; loamy fine sand

A2—4 to 15 inches; loamy fine sand

Bk1—15 to 29 inches; fine sandy loam

Bk2—29 to 40 inches; gravelly sandy loam

2Bk3—40 to 60 inches; very gravelly loamy sand

**Characteristics of Stan Soil****Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* South

*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 30 to 50 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* High

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.8 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Land capability subclass (irrigated):* 3e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

### **Typical profile**

A1—0 to 2 inches; sandy loam

A2—2 to 13 inches; loam

Bk1—13 to 33 inches; gravelly loam

Bk2—33 to 40 inches; gravelly sandy loam

2Bk3—40 to 60 inches; very gravelly loamy sand

### ***Dissimilar Minor Component***

- Breitenbach soils—5 percent

### ***Major Uses***

Irrigated cropland, rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***124—Starlite loam, 0 to 4 percent slopes***

### **Map Unit Setting**

*General landscape:* Basins

*Major land resource area (MLRA):* 11

*Elevation:* 4,700 to 5,800 feet

*Mean annual precipitation:* 8 to 11 inches

*Mean annual air temperature:* 39 to 45 degrees F

*Frost-free period:* 70 to 90 days

### **Map Unit Composition**

*Starlite and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

### **Characteristics of Starlite Soil**

#### **Setting**

*Landform:* Valleys, basin floors

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Lacustrine deposits

*Slope range:* 0 to 4 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very high (about 10.1 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6c

*Land capability subclass (irrigated):* 3c

#### **Typical profile**

A—0 to 14 inches; loam

Bk1—14 to 32 inches; loam

Bk2—32 to 37 inches; silty clay loam

Bk3—37 to 47 inches; silt loam

Bk4—47 to 60 inches; very fine sandy loam

### **Dissimilar Minor Components**

- Medicine soils—10 percent
- Sparmo soils—10 percent

### **Major Use**

Irrigated cropland

### **Management**

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## **125—Techick-Soelberg complex, 4 to 8 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 5,000 to 5,600 feet  
*Mean annual precipitation:* 11 to 13 inches  
*Mean annual air temperature:* 38 to 41 degrees F  
*Frost-free period:* 70 to 90 days

### **Map Unit Composition**

*Techick and similar soils:* 50 percent  
*Soelberg and similar soils:* 45 percent  
*Dissimilar minor components:* 5 percent

### **Characteristics of Techick Soil**

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Northeast  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 4 to 8 percent  
*Depth to restrictive feature:* 40 to 50 inches to strongly contrasting textural stratification  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* High (about 8.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e  
*Land capability subclass (irrigated):* 3e  
*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A—0 to 4 inches; loam  
 Bt—4 to 12 inches; clay loam  
 Btk—12 to 25 inches; clay loam  
 Bk—25 to 46 inches; loam  
 2Bq—46 to 60 inches; extremely gravelly sand

### **Characteristics of Soelberg Soil**

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear



*Aspect (representative):* Northeast

*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 4 to 8 percent

*Depth to restrictive feature:* 30 to 40 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.1 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Land capability subclass (irrigated):* 4e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

### **Typical profile**

A—0 to 2 inches; loam

Bt—2 to 30 inches; loam

2Bkq—30 to 34 inches; extremely gravelly loamy coarse sand

2Bq—34 to 60 inches; extremely gravelly sand

### ***Dissimilar Minor Component***

- Techick soils, deep—5 percent

### ***Major Uses***

Irrigated cropland, irrigated pastureland, rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***126—Techick-Soelberg-Lesbut complex, 0 to 4 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 5,000 to 5,600 feet

*Mean annual precipitation:* 11 to 13 inches

*Mean annual air temperature:* 38 to 42 degrees F

*Frost-free period:* 70 to 90 days

### **Map Unit Composition**

*Techick and similar soils:* 40 percent  
*Soelberg and similar soils:* 35 percent  
*Lesbut and similar soils:* 15 percent  
*Dissimilar minor components:* 10 percent

### **Characteristics of Techick Soil**

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 0 to 4 percent  
*Depth to restrictive feature:* 40 to 50 inches to strongly contrasting textural stratification  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* High (about 8.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4c  
*Land capability subclass (irrigated):* 3e  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

#### **Typical profile**

A—0 to 4 inches; loam  
Bt—4 to 12 inches; clay loam  
Btk—12 to 25 inches; clay loam  
Bk—25 to 46 inches; loam  
2Bq—46 to 60 inches; extremely gravelly sand

### **Characteristics of Soelberg Soil**

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 0 to 4 percent  
*Depth to restrictive feature:* 30 to 40 inches to strongly contrasting textural stratification  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 5.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6c

*Land capability subclass (irrigated):* 3e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A—0 to 10 inches; loam

Bt—10 to 28 inches; clay loam

Bk—28 to 36 inches; gravelly loam

2Bkq—36 to 40 inches; extremely gravelly loamy coarse sand

2Bq—40 to 60 inches; extremely gravelly sand

### ***Characteristics of Lesbut Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 4 percent

*Depth to restrictive feature:* 10 to 20 inches to strongly contrasting textural stratification

*Drainage class:* Somewhat excessively drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 2.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Land capability subclass (irrigated):* 4s

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A—0 to 3 inches; gravelly loam

Bw1—3 to 13 inches; gravelly loam

Bw2—13 to 19 inches; very gravelly sandy loam

2Bkq—19 to 60 inches; extremely gravelly loamy sand

### ***Dissimilar Minor Component***

- Soelberg soils, moderately deep to duripan—10 percent

### ***Major Uses***

Irrigated cropland, irrigated pastureland, rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

"Rangeland"  
 "Crops and Pasture"  
 "Recreation"  
 "Wildlife Habitat"  
 "Engineering"  
 "Soil Properties"

## **127—*Techicknot-Atom-Nargon complex, 0 to 12 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 11  
*Elevation:* 4,800 to 5,800 feet  
*Mean annual precipitation:* 9 to 11 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 70 to 100 days

### **Map Unit Composition**

*Techicknot and similar soils:* 45 percent  
*Atom and similar soils:* 25 percent  
*Nargon and similar soils:* 20 percent  
*Dissimilar minor components:* 10 percent

### **Characteristics of Techicknot Soil**

#### **Setting**

*Landform:* Depressions of lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* West  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 0 to 12 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Very high (about 11.1 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

#### **Typical profile**

A—0 to 4 inches; loam  
 Bt—4 to 29 inches; clay loam

Bk1—29 to 48 inches; loam  
Bk2—48 to 60 inches; silt loam

### ***Characteristics of Atom Soil***

#### **Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* West  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 2 to 12 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 22  
*Available water capacity (entire profile):* High (about 9.2 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

#### **Typical profile**

A—0 to 7 inches; silt loam  
Bk1—7 to 15 inches; silty clay loam  
Bk2—15 to 60 inches; silt loam

### ***Characteristics of Nargon Soil***

#### **Setting**

*Landform:* Lava plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* West  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium over basalt  
*Slope range:* 2 to 12 percent  
*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 1  
*Available water capacity (entire profile):* Low (about 4 inches)

**Interpretive groups***Land capability subclass (nonirrigated): 6e**Ecological site: LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)***Typical profile**

A—0 to 5 inches; loam

Bk—5 to 15 inches; clay loam

Bkq—15 to 22 inches; stony loam

2R—22 to 32 inches; unweathered bedrock

***Dissimilar Minor Components***

- Beartrap soils—5 percent
- Coffee soils—2 percent
- Deuce soils—1 percent
- Rock outcrop—1 percent
- Splittop soils—1 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***128—Tenno-Splittop-Lava flows complex, 4 to 8 percent slopes*****Map Unit Setting***General landscape:* Plains*Major land resource area (MLRA):* 11*Elevation:* 5,000 to 5,500 feet*Mean annual precipitation:* 10 to 12 inches*Mean annual air temperature:* 41 to 45 degrees F*Frost-free period:* 70 to 90 days***Map Unit Composition****Tenno and similar soils:* 50 percent*Splittop and similar soils:* 25 percent*Lava flows:* 15 percent*Dissimilar minor components:* 10 percent***Characteristics of Tenno Soil*****Setting***Landform:* Lava plains*Downslope shape:* Linear*Across-slope shape:* Linear*Aspect (representative):* Northeast*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Loess over basalt

*Slope range:* 4 to 8 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 3.1 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Ecological site:* SHALLOW LOAMY 8-12 ARTRT/PSSPS (R011AY003ID)

**Typical profile**

A—0 to 4 inches; loam

Bw—4 to 13 inches; loam

Bk—13 to 18 inches; loam

2R—18 to 28 inches; unweathered bedrock

***Characteristics of Splittop Soil*****Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Eolian deposits over basalt

*Slope range:* 4 to 8 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 5.2 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 4e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

**Typical profile**

A—0 to 3 inches; silt loam

Bk1—3 to 30 inches; loam

Bk2—30 to 34 inches; loam

2R—34 to 44 inches; unweathered bedrock

***Characteristics of Lava Flows***

*Description:* Barren basalt, commonly lobate in shape

*Common features:* Fissures, pressure ridges, sinkholes, vertical cliffs

***Dissimilar Minor Component***

- Atomic soils—10 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***129—Tenno-Splittop-McCarey complex, 1 to 4 percent slopes*****Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 5,000 to 5,500 feet

*Mean annual precipitation:* 10 to 12 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 70 to 90 days

***Map Unit Composition***

*Tenno and similar soils:* 45 percent

*Splittop and similar soils:* 25 percent

*McCarey and similar soils:* 20 percent

*Dissimilar minor components:* 10 percent

***Characteristics of Tenno Soil*****Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Loess over basalt

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 3.1 inches)



**Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Land capability subclass (irrigated):* 4s

*Ecological site:* SHALLOW LOAMY 8-12 ARTRT/PSSPS (R011AY003ID)

**Typical profile**

A—0 to 4 inches; loam

Bw—4 to 13 inches; loam

Bk—13 to 18 inches; loam

2R—18 to 28 inches; unweathered bedrock

***Characteristics of Splittop Soil*****Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Eolian deposits over basalt

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.7 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 4c

*Land capability subclass (irrigated):* 3c

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

**Typical profile**

A—0 to 4 inches; loam

Bk—4 to 30 inches; loam

2R—30 to 40 inches; unweathered bedrock

***Characteristics of McCarey Soil*****Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium and/or loess over basalt

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 3.9 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4s

*Land capability subclass (irrigated):* 3e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

### **Typical profile**

A—0 to 4 inches; fine sandy loam

Bt—4 to 17 inches; clay loam

Bk—17 to 21 inches; loam

2R—21 to 31 inches; unweathered bedrock

### ***Dissimilar Minor Component***

- Rock outcrop—10 percent

### ***Major Uses***

Irrigated cropland, irrigated pastureland, rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***130—Thornock-Portino complex, 4 to 8 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,400 to 4,700 feet

*Mean annual precipitation:* 8 to 10 inches

*Mean annual air temperature:* 46 to 48 degrees F

*Frost-free period:* 100 to 120 days

### ***Map Unit Composition***

*Thornock and similar soils:* 45 percent

*Portino and similar soils:* 35 percent

*Dissimilar minor components:* 20 percent

### ***Characteristics of Thornock Soil***

#### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed alluvium and loess over basalt

*Slope range:* 4 to 8 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Low (about 2.6 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Land capability subclass (irrigated):* 4e

*Ecological site:* SHALLOW LOAMY 8-12 ARTRW8/PSSPS (R011XY004ID)

**Typical profile**

A1—0 to 5 inches; stony loam

A2—5 to 10 inches; silt loam

Bk—10 to 16 inches; cobbly loam

R—16 to 26 inches; unweathered bedrock

***Characteristics of Portino Soil*****Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Silty alluvium and/or loess over basalt

*Slope range:* 4 to 8 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Moderate (about 5.4 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Land capability subclass (irrigated):* 3e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

**Typical profile**

A—0 to 4 inches; loam

Bk—4 to 29 inches; silt loam

2R—29 to 39 inches; unweathered bedrock

### ***Dissimilar Minor Components***

- McCain soils, deep—5 percent
- Portino soils, moderately deep to duripan—5 percent
- Rock outcrop—5 percent
- Splittop soils, moderately deep to duripan—5 percent

### ***Major Uses***

Irrigated cropland, irrigated pastureland, rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***131—Thornock-Portino complex, 8 to 12 percent slopes***

### ***Map Unit Setting***

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,400 to 4,600 feet

*Mean annual precipitation:* 8 to 10 inches

*Mean annual air temperature:* 46 to 48 degrees F

*Frost-free period:* 100 to 120 days

### ***Map Unit Composition***

*Thornock and similar soils:* 50 percent

*Portino and similar soils:* 25 percent

*Dissimilar minor components:* 25 percent

### ***Characteristics of Thornock Soil***

#### ***Setting***

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

#### ***Properties and qualities***

*Parent material:* Mixed alluvium and loess over basalt

*Slope range:* 8 to 12 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Low (about 2.6 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Land capability subclass (irrigated):* 4e

*Ecological site:* SHALLOW LOAMY 8-12 ARTRW8/PSSPS (R011XY004ID)

### **Typical profile**

A1—0 to 5 inches; stony loam

A2—5 to 10 inches; silt loam

Bk—10 to 16 inches; cobbly loam

R—16 to 26 inches; unweathered bedrock

## ***Characteristics of Portino Soil***

### **Setting**

*Landform:* Lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southeast

*Aspect (range):* All aspects

### **Properties and qualities**

*Parent material:* Silty alluvium and/or loess over basalt

*Slope range:* 8 to 12 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 5

*Available water capacity (entire profile):* Moderate (about 5.3 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Land capability subclass (irrigated):* 4e

*Ecological site:* LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)

### **Typical profile**

A—0 to 4 inches; loam

Bk—4 to 29 inches; silt loam

2R—29 to 39 inches; unweathered bedrock

## ***Dissimilar Minor Components***

- McCain soils—10 percent
- Portino soils, shallow to duripan—5 percent
- Rock outcrop—5 percent
- Thornock soils, skeletal subsoil—5 percent

## ***Major Uses***

Irrigated pastureland, rangeland

## ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

"Rangeland"  
 "Crops and Pasture"  
 "Recreation"  
 "Wildlife Habitat"  
 "Engineering"  
 "Soil Properties"

### **132—Thosand-Sancrane complex, 0 to 2 percent slopes**

#### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 12  
*Elevation:* 5,300 to 5,700 feet  
*Mean annual precipitation:* 9 to 10 inches  
*Mean annual air temperature:* 39 to 41 degrees F  
*Frost-free period:* 45 to 55 days

#### **Map Unit Composition**

*Thosand and similar soils:* 50 percent  
*Sancrane and similar soils:* 25 percent  
*Dissimilar minor components:* 25 percent

#### **Characteristics of Thosand Soil**

##### **Setting**

*Landform:* Stream terraces, flood plains  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Northeast  
*Aspect (range):* All aspects

##### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 0 to 2 percent  
*Depth to restrictive feature:* 40 to 60 inches to strongly contrasting textural stratification  
*Drainage class:* Poorly drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* Occasional (see Water Features table)  
*Ponding frequency:* Frequent (see Water Features table)  
*Seasonal high water table (minimum depth):* At the surface to a depth of 12 inches (see Water Features table)  
*Salinity (maximum):* Slightly saline (about 6 millimhos per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* High (about 7.7 inches)

##### **Interpretive groups**

*Land capability subclass (nonirrigated):* 5w

##### **Typical profile**

Akg—0 to 3 inches; silt loam  
 Bkg1—3 to 16 inches; silt loam  
 Bkg2—16 to 41 inches; loam  
 Bkg3—41 to 52 inches; gravelly sandy loam  
 2Cg—52 to 60 inches; extremely gravelly loamy coarse sand

### ***Characteristics of Sancrane Soil***

#### **Setting**

*Landform:* Flood plains, stream terraces

*Downslope shape:* Concave

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Depth to restrictive feature:* 20 to 35 inches to strongly contrasting textural stratification

*Drainage class:* Poorly drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* Frequent (see Water Features table)

*Seasonal high water table (minimum depth):* At the surface to a depth of 12 inches  
(see Water Features table)

*Salinity (maximum):* Slightly saline (about 6 millimhos per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 5.3 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 5w

#### **Typical profile**

Oe—0 to 2 inches; moderately decomposed plant material

Akg—2 to 5 inches; silt loam

Bkg—5 to 31 inches; loam

2C—31 to 60 inches; extremely gravelly loamy coarse sand

#### ***Dissimilar Minor Components***

- Bigrant soils—10 percent
- Bigrant soils, leached surface—10 percent
- Borah soils, leached surface—5 percent

#### ***Major Use***

Nonirrigated pastureland

#### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

### ***133—Truesdale-Minidoka complex, 0 to 2 percent slopes***

#### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 11

*Elevation:* 4,500 to 4,700 feet

*Mean annual precipitation:* 9 to 10 inches

*Mean annual air temperature:* 46 to 48 degrees F

*Frost-free period:* 100 to 120 days

### **Map Unit Composition**

*Truesdale and similar soils:* 45 percent

*Minidoka and similar soils:* 40 percent

*Dissimilar minor components:* 15 percent

### **Characteristics of Truesdale Soil**

#### **Setting**

*Landform:* Depressions of lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium, lacustrine deposits, and loess over basalt

*Slope range:* 0 to 2 percent

*Depth to restrictive features:* 20 to 40 inches to weakly cemented duripan, 50 to 60 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Slightly saline (about 6 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 3.2 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Land capability subclass (irrigated):* 3s

#### **Typical profile**

Ap—0 to 6 inches; loam

Bw—6 to 15 inches; loam

Bk—15 to 21 inches; fine sandy loam

2Bkqm—21 to 25 inches; cemented fine sandy loam

2Bk1—25 to 54 inches; silt loam

2Bk2—54 to 57 inches; cobbly loam

2R—57 to 67 inches; unweathered bedrock

### **Characteristics of Minidoka Soil**

#### **Setting**

*Landform:* Depressions of lava plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Silty alluvium, loess, and/or lacustrine deposits

*Slope range:* 0 to 2 percent



*Depth to restrictive feature:* 20 to 40 inches to indurated duripan

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Very low

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Moderate (about 5.8 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Land capability subclass (irrigated):* 3s

### **Typical profile**

A—0 to 10 inches; silt loam

Bk—10 to 29 inches; silt loam

2Bkqm—29 to 46 inches; cemented material

2B'k1—46 to 57 inches; silt loam

2B'k2—57 to 64 inches; gravelly silt loam

### ***Dissimilar Minor Components***

- McClenden soils—5 percent
- Portino soils, very deep—5 percent
- Truesdale soils, strongly cemented duripan—5 percent

### ***Major Use***

Irrigated cropland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***134—Vitale-Blackspar complex, 5 to 60 percent slopes***

### **Map Unit Setting**

*General landscape:* Mountains

*Major land resource area (MLRA):* 10

*Elevation:* 5,200 to 8,500 feet

*Mean annual precipitation:* 12 to 16 inches

*Mean annual air temperature:* 40 to 44 degrees F

*Frost-free period:* 50 to 90 days

### ***Map Unit Composition***

*Vitale and similar soils:* 45 percent

*Blackspar and similar soils:* 35 percent

*Dissimilar minor components:* 20 percent

### ***Characteristics of Vitale Soil***

#### **Setting**

*Landform:* Mountain slopes

*Downslope shape:* Convex

*Across-slope shape:* Convex

*Aspect (representative):* South

*Aspect (range):* East to west (clockwise)

#### **Properties and qualities**

*Parent material:* Slope alluvium and/or colluvium derived from welded tuff, rhyolite, quartz monzonite, sandstone, conglomerate, and/or siltstone

*Slope range:* 5 to 60 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 2.1 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SOUTH SLOPE GRAVELLY 12-16 ARTRV/PSSPS  
(R010AY009ID)

#### **Typical profile**

A1—0 to 3 inches; very cobbly loam

A2—3 to 10 inches; very cobbly loam

Bt1—10 to 24 inches; very cobbly clay loam

Bt2—24 to 33 inches; very cobbly loam

R—33 to 43 inches; unweathered bedrock

### ***Characteristics of Blackspar Soil***

#### **Setting**

*Landform:* Mountain slopes

*Downslope shape:* Linear

*Across-slope shape:* Convex

*Aspect (representative):* South

*Aspect (range):* East to west (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium over siltstone, sandstone, and/or conglomerate

*Slope range:* 10 to 60 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 0.6 inch)

**Interpretive groups**

*Land capability subclass (nonirrigated): 7e*

*Ecological site: SHALLOW STONY LOAM 8-16 ARAR8/PSSPS (R010AY007ID)*

**Typical profile**

A—0 to 6 inches; very cobbly loam

Bt—6 to 12 inches; extremely cobbly loam

R—12 to 22 inches; unweathered bedrock

***Dissimilar Minor Components***

- Dollarhide soils—5 percent
- Drage soils—5 percent
- Riverlost soils—5 percent
- Rock outcrop—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***135—Whitecloud gravelly loam, 1 to 4 percent slopes******Map Unit Setting***

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 6,500 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 60 to 70 days

***Map Unit Composition***

*Whitecloud and similar soils:* 75 percent

*Dissimilar minor components:* 25 percent

***Characteristics of Whitecloud Soil*****Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 20 to 25 inches to strongly contrasting textural stratification

*Drainage class:* Somewhat excessively drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 2.2 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

### **Typical profile**

A—0 to 11 inches; gravelly loam

Bk—11 to 20 inches; extremely gravelly sandy loam

2Bkq—20 to 60 inches; extremely gravelly loamy sand

### ***Dissimilar Minor Components***

- Fandow soils—10 percent
- Goosebury soils, high precipitation—5 percent
- Sparmo soils—5 percent
- Zer soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***136—Whitecloud-Sanfelipe complex, 0 to 4 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,900 to 6,400 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 60 to 70 days

### **Map Unit Composition**

*Whitecloud and similar soils:* 55 percent

*Sanfelipe and similar soils:* 25 percent

*Dissimilar minor components:* 20 percent

### ***Characteristics of Whitecloud Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Alluvium derived from limestone

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* 20 to 25 inches to strongly contrasting textural stratification

*Drainage class:* Somewhat excessively drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 2.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A—0 to 12 inches; gravelly loam

Bk—12 to 22 inches; very gravelly sandy loam

2Bkq—22 to 60 inches; extremely gravelly loamy sand

### ***Characteristics of Sanfelipe Soil***

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 4 percent

*Depth to restrictive feature:* 2 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6s

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A—0 to 10 inches; gravelly loam

Bkq1—10 to 29 inches; very gravelly loam

Bkq2—29 to 60 inches; extremely gravelly sandy loam

***Dissimilar Minor Components***

- Zer soils—10 percent
- Paint soils—5 percent
- Sparmo soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***137—Zeale complex, 2 to 20 percent slopes******Map Unit Setting***

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 7,500 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 36 to 42 degrees F

*Frost-free period:* 45 to 55 days

***Map Unit Composition***

*Zeale and similar soils:* 70 percent

*Zeale, high precipitation, and similar soils:* 25 percent

*Dissimilar minor components:* 5 percent

***Characteristics of Zeale Soil*****Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* Northwest to east (clockwise)

**Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone

*Slope range:* 2 to 20 percent

*Depth to restrictive feature:* 8 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.3 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID  
(R012XY002ID)

### **Typical profile**

A—0 to 10 inches; gravelly loam

Bk—10 to 60 inches; very gravelly loam

## ***Characteristics of Zeale Soil, High Precipitation***

### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Northeast

*Aspect (range):* Northwest to east (clockwise)

### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone

*Slope range:* 2 to 20 percent

*Depth to restrictive feature:* 8 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 3.8 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY 13-16 ARTR4/PSSPS-FEID (R012XY008ID)

### **Typical profile**

A—0 to 14 inches; gravelly loam

Bk—14 to 60 inches; very gravelly loam

## ***Dissimilar Minor Component***

- Simeroi soils—5 percent

## ***Major Use***

Rangeland

## ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

### **138—Zeale complex, 20 to 60 percent slopes**

#### **Map Unit Setting**

*General landscape:* Mountains, foothills  
*Major land resource area (MLRA):* 12  
*Elevation:* 6,400 to 9,000 feet  
*Mean annual precipitation:* 12 to 14 inches  
*Mean annual air temperature:* 34 to 40 degrees F  
*Frost-free period:* 30 to 50 days

#### **Map Unit Composition**

*Zeale and similar soils:* 70 percent  
*Zeale, high precipitation, and similar soils:* 25 percent  
*Dissimilar minor components:* 5 percent

#### **Characteristics of Zeale Soil**

##### **Setting**

*Landform:* Hillslopes, mountain slopes  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* North  
*Aspect (range):* Northwest to northeast (clockwise)

##### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone  
*Slope range:* 20 to 60 percent  
*Depth to restrictive feature:* 8 to 15 inches to high content of carbonates  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Low (about 3.8 inches)

##### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID  
 (R012XY002ID)

##### **Typical profile**

A—0 to 10 inches; gravelly loam  
 Bk—10 to 60 inches; very gravelly loam

#### **Characteristics of Zeale Soil, High Precipitation**

##### **Setting**

*Landform:* Mountain slopes, hillslopes  
*Downslope shape:* Linear  
*Across-slope shape:* Linear



*Aspect (representative):* North

*Aspect (range):* Northwest to northeast (clockwise)

### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone

*Slope range:* 20 to 60 percent

*Depth to restrictive feature:* 8 to 15 inches to high content of carbonates

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 3.8 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* GRAVELLY 13-16 ARTR4/PSSPS-FEID (R012XY008ID)

### **Typical profile**

A—0 to 14 inches; gravelly loam

Bk—14 to 60 inches; very gravelly loam

### ***Dissimilar Minor Component***

- Jimbee soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***139—Zeale-Coalkiln-Jimbee complex, 25 to 60 percent slopes***

### **Map Unit Setting**

*General landscape:* Mountains

*Major land resource area (MLRA):* 12

*Elevation:* 7,000 to 9,000 feet

*Mean annual precipitation:* 13 to 26 inches

*Mean annual air temperature:* 34 to 40 degrees F

*Frost-free period:* 30 to 50 days

### ***Map Unit Composition***

*Zeale and similar soils:* 35 percent

*Coalkiln and similar soils:* 25 percent

*Jimbee and similar soils:* 25 percent  
*Dissimilar minor components:* 15 percent

### **Characteristics of Zeale Soil**

#### **Setting**

*Landform:* Mountain slopes  
*Downslope shape:* Linear  
*Across-slope shape:* Convex  
*Aspect (representative):* North  
*Aspect (range):* West to northeast (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone  
*Slope range:* 25 to 60 percent  
*Depth to restrictive feature:* 8 to 15 inches to high content of carbonates  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Sodium adsorption ratio about 3  
*Available water capacity (entire profile):* Low (about 4.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* LOAMY 16-22 ARTRV/FEID (R012XY021ID)

#### **Typical profile**

A—0 to 15 inches; gravelly loam  
 Bk—15 to 60 inches; very gravelly loam

### **Characteristics of Coalkiln Soil**

#### **Setting**

*Landform:* Mountain slopes  
*Downslope shape:* Convex  
*Across-slope shape:* Linear  
*Aspect (representative):* North  
*Aspect (range):* West to northeast (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone  
*Slope range:* 25 to 60 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Sodium adsorption ratio about 4  
*Available water capacity (entire profile):* Moderate (about 7 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Plant community class:* DOUGLAS-FIR STONY 22+ PSME/CARU (R043AY005ID)

**Typical profile**

Oi—0 to 1 inch; slightly decomposed plant material  
 A1—1 to 5 inches; very gravelly loam  
 A2—5 to 9 inches; gravelly loam  
 Ak—9 to 17 inches; very gravelly loam  
 Bk1—17 to 41 inches; very gravelly loam  
 Bk2—41 to 60 inches; extremely gravelly loam

***Characteristics of Jimbee Soil*****Setting**

*Landform:* Mountain slopes, ridges  
*Downslope shape:* Convex  
*Across-slope shape:* Convex  
*Aspect (representative):* North  
*Aspect (range):* West to northeast (clockwise)

**Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from limestone  
*Slope range:* 25 to 60 percent  
*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Very low (about 2 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 7e  
*Ecological site:* STEEP LIMESTONE 12-20 CELE3/PSSPS-FEID (R012XY015ID)

**Typical profile**

A—0 to 3 inches; gravelly loam  
 Bkq—3 to 18 inches; very gravelly loam  
 R—18 to 28 inches; unweathered bedrock

***Dissimilar Minor Components***

- Adek soils—5 percent
- Ketchum soils—5 percent
- Rock outcrop—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## **140—Zeebar association, 20 to 50 percent slopes**

### **Map Unit Setting**

*General landscape:* Mountains, foothills  
*Major land resource area (MLRA):* 12  
*Elevation:* 7,000 to 9,000 feet  
*Mean annual precipitation:* 12 to 18 inches  
*Mean annual air temperature:* 35 to 40 degrees F  
*Frost-free period:* 10 to 50 days

### **Map Unit Composition**

*Zeebar, cool, and similar soils:* 55 percent  
*Zeebar and similar soils:* 30 percent  
*Dissimilar minor components:* 15 percent

### **Characteristics of Zeebar Soil, Cool**

#### **Setting**

*Landform:* Mountain slopes, hillslopes  
*Downslope shape:* Linear  
*Across-slope shape:* Convex  
*Aspect (representative):* West  
*Aspect (range):* Southwest to northwest (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from quartzite  
*Slope range:* 20 to 50 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Moderate (about 5.5 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID  
 (R012XY002ID)

#### **Typical profile**

A1—0 to 4 inches; gravelly loam  
 A2—4 to 12 inches; gravelly loam  
 Bt—12 to 50 inches; very gravelly clay loam  
 C—50 to 60 inches; extremely gravelly loam

### **Characteristics of Zeebar Soil**

#### **Setting**

*Landform:* Hillslopes, mountain slopes  
*Downslope shape:* Linear  
*Across-slope shape:* Convex  
*Aspect (representative):* West  
*Aspect (range):* Southwest to northwest (clockwise)

**Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from quartzite

*Slope range:* 20 to 50 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.9 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* LOAMY 16-22 ARTRV/FEID (R012XY021ID)

**Typical profile**

A1—0 to 3 inches; gravelly loam

A2—3 to 19 inches; gravelly loam

Bt—19 to 41 inches; very gravelly clay loam

C—41 to 60 inches; extremely gravelly loam

***Dissimilar Minor Components***

- Povey soils—10 percent
- Nurkey soils, low precipitation—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***141—Zeebar-Parvis-Howcan association, 15 to 60 percent slopes*****Map Unit Setting**

*General landscape:* Mountains, foothills

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 8,500 feet

*Mean annual precipitation:* 12 to 18 inches

*Mean annual air temperature:* 34 to 43 degrees F

*Frost-free period:* 10 to 80 days

***Map Unit Composition***

*Zeebar and similar soils:* 40 percent

*Parvis and similar soils:* 25 percent

*Howcan and similar soils:* 20 percent  
*Dissimilar minor components:* 15 percent

### **Characteristics of Zeebar Soil**

#### **Setting**

*Landform:* Hillslopes, mountain slopes  
*Downslope shape:* Convex  
*Across-slope shape:* Convex  
*Aspect (representative):* North  
*Aspect (range):* Northwest to northeast (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from quartzite  
*Slope range:* 15 to 50 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Low (about 3.9 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Ecological site:* LOAMY 16-22 ARTRV/FEID (R012XY021ID)

#### **Typical profile**

A1—0 to 4 inches; gravelly loam  
 A2—4 to 10 inches; very gravelly loam  
 BA—10 to 28 inches; gravelly loam  
 Bt—28 to 37 inches; very gravelly clay loam  
 C—37 to 60 inches; extremely gravelly loam

### **Characteristics of Parvis Soil**

#### **Setting**

*Landform:* Mountain slopes, hillslopes  
*Downslope shape:* Convex  
*Across-slope shape:* Linear  
*Aspect (representative):* North  
*Aspect (range):* Northwest to northeast (clockwise)

#### **Properties and qualities**

*Parent material:* Colluvium and/or slope alluvium derived from siltstone  
*Slope range:* 15 to 60 percent  
*Depth to restrictive feature:* None within a depth of 60 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Moderate (about 5.4 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated): 7e*

*Ecological site: LOAMY 12-16 ARTRV/FEID-PSSPS (R012XY012ID)*

**Typical profile**

A1—0 to 8 inches; gravelly loam

A2—8 to 28 inches; very flaggy loam

Bt1—28 to 43 inches; extremely flaggy clay loam

Bt2—43 to 60 inches; extremely flaggy clay loam

***Characteristics of Howcan Soil*****Setting**

*Landform: Hillslopes*

*Downslope shape: Concave*

*Across-slope shape: Convex*

*Aspect (representative): South*

*Aspect (range): Northeast to northwest (clockwise)*

**Properties and qualities**

*Parent material: Colluvium and/or slope alluvium over latite and/or andesite*

*Slope range: 15 to 60 percent*

*Depth to restrictive feature: 40 to 60 inches to lithic bedrock*

*Drainage class: Well drained*

*Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high*

*Flooding frequency: None*

*Ponding frequency: None*

*Seasonal high water table (minimum depth): More than 72 inches*

*Salinity (maximum): Nonsaline*

*Sodicity (maximum): Nonsodic*

*Available water capacity (entire profile): Low (about 4.2 inches)*

**Interpretive groups**

*Land capability subclass (nonirrigated): 6s*

*Ecological site: LOAMY 16-22 ARTRV/FEID (R012XY021ID)*

**Typical profile**

A1—0 to 4 inches; loam

A2—4 to 10 inches; extremely cobbly loam

Bt—10 to 38 inches; extremely stony loam

BC—38 to 54 inches; extremely stony sandy loam

R—54 to 64 inches; unweathered bedrock

***Dissimilar Minor Components***

- Hagenbarth soils—8 percent
- Hutchley soils—5 percent
- Rock outcrop—2 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”



“Wildlife Habitat”

“Engineering”

“Soil Properties”

## **142—Zer gravelly loam, 1 to 4 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,500 to 6,600 feet

*Mean annual precipitation:* 10 to 12 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 70 to 80 days

### **Map Unit Composition**

*Zer and similar soils:* 85 percent

*Dissimilar minor components:* 15 percent

### **Characteristics of Zer Soil**

#### **Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium

*Slope range:* 1 to 4 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Moderate (about 5.6 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6c

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

#### **Typical profile**

A—0 to 7 inches; gravelly loam

Bk1—7 to 38 inches; very gravelly loam

Bk2—38 to 60 inches; extremely gravelly sandy loam

### **Dissimilar Minor Components**

- Whiteknob soils—10 percent
- Sparmo soils—5 percent

### **Major Use**

Rangeland



### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***143—Zer gravelly loam, 5 to 10 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 12  
*Elevation:* 4,000 to 5,500 feet  
*Mean annual precipitation:* 8 to 10 inches  
*Mean annual air temperature:* 41 to 43 degrees F  
*Frost-free period:* 80 to 90 days

### **Map Unit Composition**

*Zer and similar soils:* 85 percent  
*Dissimilar minor components:* 15 percent

### **Characteristics of Zer Soil**

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* South  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium  
*Slope range:* 5 to 10 percent  
*Depth to restrictive feature:* 20 to 40 inches to strongly contrasting textural stratification  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Very low (about 1.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e  
*Land capability subclass (irrigated):* 4e  
*Ecological site:* SALINE LOAMY 8-11 SAVE4/LECI4 (R012XY018ID)

#### **Typical profile**

A—0 to 8 inches; gravelly loam  
 Bk1—8 to 20 inches; very gravelly loam  
 2Bk2—20 to 60 inches; extremely gravelly loamy sand

***Dissimilar Minor Components***

- Zer soils, clayey subsoil—10 percent
- Zer soils, saline surface—5 percent

***Major Uses***

Irrigated pastureland, rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***144—Zer very gravelly loam, 4 to 20 percent slopes******Map Unit Setting***

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 6,000 to 7,000 feet

*Mean annual precipitation:* 10 to 12 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 60 to 80 days

***Map Unit Composition***

*Zer and similar soils:* 95 percent

*Dissimilar minor components:* 5 percent

***Characteristics of Zer Soil******Setting***

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* South to west (clockwise)

***Properties and qualities***

*Parent material:* Mixed slope alluvium and/or colluvium

*Slope range:* 4 to 20 percent

*Depth to restrictive feature:* 20 to 40 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 3 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated): 6e*

*Ecological site: GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)*

**Typical profile**

A—0 to 3 inches; very gravelly loam

Bk1—3 to 37 inches; extremely gravelly sandy loam

2Bk2—37 to 60 inches; extremely gravelly loamy sand

***Dissimilar Minor Component***

- Whiteknob soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

***145—Zer gravelly loam, 20 to 50 percent slopes******Map Unit Setting***

*General landscape:* Foothills

*Major land resource area (MLRA):* 12

*Elevation:* 5,500 to 6,500 feet

*Mean annual precipitation:* 8 to 10 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 60 to 80 days

***Map Unit Composition***

*Zer and similar soils:* 80 percent

*Dissimilar minor components:* 20 percent

***Characteristics of Zer Soil*****Setting**

*Landform:* Hillslopes

*Downslope shape:* Convex

*Across-slope shape:* Convex

*Aspect (representative):* Southwest

*Aspect (range):* South to southwest (clockwise)

**Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium

*Slope range:* 20 to 50 percent

*Depth to restrictive feature:* 20 to 40 inches to strongly contrasting textural stratification

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 2.2 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* WINDSWEPT 8-11 ARFR4/POSE (R012XY006ID)

### **Typical profile**

A—0 to 7 inches; gravelly loam

Bk1—7 to 26 inches; very gravelly loam

2Bk2—26 to 60 inches; extremely gravelly loamy sand

### ***Dissimilar Minor Components***

- Packmo soils—10 percent
- McCaleb soils—5 percent
- Sparmo soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***146—Zer-Snowslide complex, 5 to 15 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains

*Major land resource area (MLRA):* 12

*Elevation:* 5,400 to 6,400 feet

*Mean annual precipitation:* 8 to 10 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 60 to 80 days

### ***Map Unit Composition***

*Zer and similar soils:* 45 percent

*Snowslide and similar soils:* 40 percent

*Dissimilar minor components:* 15 percent

### ***Characteristics of Zer Soil***

#### **Setting**

*Landform:* Drainageways, fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium

*Slope range:* 5 to 15 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Low (about 4.7 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 6e

*Ecological site:* GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)

**Typical profile**

A1—0 to 2 inches; gravelly loam

A2—2 to 8 inches; very gravelly loam

Bk1—8 to 18 inches; very gravelly loam

Bk2—18 to 60 inches; extremely gravelly sandy loam

***Characteristics of Snowslide Soil*****Setting**

*Landform:* Fan remnants

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* Southwest

*Aspect (range):* All aspects

**Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium derived from quartzite and/or limestone

*Slope range:* 5 to 15 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Moderately saline (about 12 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 8

*Available water capacity (entire profile):* Low (about 4.5 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)

**Typical profile**

A—0 to 10 inches; gravelly loam

Bk1—10 to 34 inches; very gravelly loam

Bk2—34 to 60 inches; very gravelly loam

### ***Dissimilar Minor Components***

- Sparmo soils—10 percent
- Packmo soils—5 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”  
 “Recreation”  
 “Wildlife Habitat”  
 “Engineering”  
 “Soil Properties”

## ***147—Zer-Whiteknob complex, 1 to 4 percent slopes***

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 12  
*Elevation:* 4,800 to 6,000 feet  
*Mean annual precipitation:* 9 to 11 inches  
*Mean annual air temperature:* 41 to 43 degrees F  
*Frost-free period:* 70 to 80 days

### ***Map Unit Composition***

*Zer and similar soils:* 65 percent  
*Whiteknob and similar soils:* 25 percent  
*Dissimilar minor components:* 10 percent

### ***Characteristics of Zer Soil***

#### **Setting**

*Landform:* Fan remnants  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* Southeast  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed slope alluvium and/or colluvium  
*Slope range:* 1 to 4 percent  
*Depth to restrictive feature:* 20 to 40 inches to strongly contrasting textural stratification  
*Drainage class:* Well drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* None  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* More than 72 inches  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Low (about 3.2 inches)

**Interpretive groups***Land capability subclass (nonirrigated): 6s**Land capability subclass (irrigated): 4s***Typical profile**

A—0 to 3 inches; gravelly loam

Bk1—3 to 17 inches; gravelly loam

Bk2—17 to 33 inches; very gravelly sandy loam

2Bk3—33 to 60 inches; very gravelly loamy sand

***Characteristics of Whiteknob Soil*****Setting***Landform:* Fan remnants*Downslope shape:* Linear*Across-slope shape:* Linear*Aspect (representative):* Southeast*Aspect (range):* All aspects**Properties and qualities***Parent material:* Mixed alluvium*Slope range:* 1 to 4 percent*Depth to restrictive feature:* 10 to 20 inches to strongly contrasting textural stratification*Drainage class:* Somewhat excessively drained*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high*Flooding frequency:* None*Ponding frequency:* None*Seasonal high water table (minimum depth):* More than 72 inches*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)*Sodicity (maximum):* Sodium adsorption ratio about 3*Available water capacity (entire profile):* Very low (about 1.4 inches)**Interpretive groups***Land capability subclass (nonirrigated): 6s**Land capability subclass (irrigated): 4s***Typical profile**

A—0 to 3 inches; gravelly loam

Bw—3 to 10 inches; gravelly loam

2Bk1—10 to 12 inches; very gravelly loam

2Bk2—12 to 60 inches; extremely gravelly loamy coarse sand

***Dissimilar Minor Component***

- Sparmo soils—10 percent

***Major Uses***

Irrigated cropland, irrigated pastureland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Crops and Pasture”

“Recreation”

“Wildlife Habitat”

“Engineering”  
 “Soil Properties”

## **148—Mooretown-Blackfoot-Borah complex, 0 to 2 percent slopes**

### **Map Unit Setting**

*General landscape:* Plains  
*Major land resource area (MLRA):* 12  
*Elevation:* 5,000 to 6,300 feet  
*Mean annual precipitation:* 9 to 12 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 50 to 90 days

### **Map Unit Composition**

*Mooretown and similar soils:* 45 percent  
*Blackfoot and similar soils:* 25 percent  
*Borah and similar soils:* 20 percent  
*Dissimilar minor components:* 10 percent

### **Characteristics of Mooretown Soil**

#### **Setting**

*Landform:* Flood plains, stream terraces  
*Downslope shape:* Linear  
*Across-slope shape:* Linear  
*Aspect (representative):* East  
*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium  
*Slope range:* 0 to 2 percent  
*Depth to restrictive feature:* 40 to 60 inches to strongly contrasting textural stratification  
*Drainage class:* Somewhat poorly drained  
*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high  
*Flooding frequency:* Occasional (see Water Features table)  
*Ponding frequency:* None  
*Seasonal high water table (minimum depth):* About 18 to 36 inches (see Water Features table)  
*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)  
*Sodicity (maximum):* Nonsodic  
*Available water capacity (entire profile):* Moderate (about 7.3 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4w  
*Ecological site:* DRY MEADOW PONE3-PHAL2 (R012XY023ID)

#### **Typical profile**

A—0 to 3 inches; loam  
 Bk—3 to 24 inches; loam  
 Bg1—24 to 48 inches; loam  
 2Bg2—48 to 60 inches; extremely gravelly loamy sand



### ***Characteristics of Blackfoot Soil***

#### **Setting**

*Landform:* Flood plains

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Depth to restrictive feature:* None within a depth of 60 inches

*Drainage class:* Somewhat poorly drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* About 18 to 36 inches (see Water Features table)

*Salinity (maximum):* Very slightly saline (about 2 millimhos per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Very high (about 10.4 inches)

#### **Interpretive groups**

*Land capability subclass (nonirrigated):* 3w

*Land capability subclass (irrigated):* 2w

*Ecological site:* DRY MEADOW PONE3-PHAL2 (R012XY023ID)

#### **Typical profile**

A—0 to 19 inches; loam

Bw—19 to 36 inches; loam

Bk—36 to 60 inches; stratified fine sandy loam to silty clay loam

### ***Characteristics of Borah Soil***

#### **Setting**

*Landform:* Flood plains, stream terraces

*Downslope shape:* Linear

*Across-slope shape:* Linear

*Aspect (representative):* East

*Aspect (range):* All aspects

#### **Properties and qualities**

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Depth to restrictive feature:* 8 to 14 inches to strongly contrasting textural stratification

*Drainage class:* Poorly drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* Occasional (see Water Features table)

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* About 12 to 24 inches (see Water Features table)

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Very low (about 1.6 inches)

**Interpretive groups***Land capability subclass (nonirrigated): 5w**Land capability subclass (irrigated): 5w**Ecological site: MEADOW DECA18/CANE2 (R012XY038ID)***Typical profile***A—0 to 4 inches; loam**Bkg—4 to 12 inches; loam**2Cg—12 to 60 inches; extremely gravelly loamy coarse sand****Dissimilar Minor Component***

- Blackfoot soils, well drained—10 percent

***Major Uses****Irrigated cropland, irrigated pastureland, rangeland****Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

*“Rangeland”**“Crops and Pasture”**“Recreation”**“Wildlife Habitat”**“Engineering”**“Soil Properties”****149—Drage gravelly loam, cool, 2 to 15 percent slopes******Map Unit Setting****General landscape: Foothills**Major land resource area (MLRA): 10**Elevation: 4,800 to 6,100 feet**Mean annual precipitation: 12 to 16 inches**Mean annual air temperature: 39 to 45 degrees F**Frost-free period: 60 to 90 days****Map Unit Composition****Drage, cool, and similar soils: 85 percent**Dissimilar minor components: 15 percent****Characteristics of Drage Soil, Cool*****Setting***Landform: Hillslopes**Downslope shape: Linear**Across-slope shape: Linear**Aspect (representative): South**Aspect (range): All aspects***Properties and qualities***Parent material: Mixed colluvium**Slope range: 2 to 15 percent**Depth to restrictive feature: None within a depth of 60 inches**Drainage class: Well drained**Capacity of the most limiting soil layer to transmit water (Ksat): Moderately high*

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline (about 1 millimho per centimeter)

*Sodicity (maximum):* Sodium adsorption ratio about 3

*Available water capacity (entire profile):* Low (about 4.6 inches)

### **Interpretive groups**

*Land capability subclass (nonirrigated):* 4e

*Ecological site:* LOAMY 12-16 ARTRV/FEID-PSSPS (R010AY004ID)

### **Typical profile**

A—0 to 14 inches; gravelly loam

Bt—14 to 30 inches; very gravelly clay loam

Bk—30 to 60 inches; extremely cobbly sandy loam

### ***Dissimilar Minor Component***

- Molyneux soils—15 percent

### ***Major Use***

Rangeland

### ***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”

## ***150—Vitale-Blackspar complex, 30 to 60 percent slopes***

### **Map Unit Setting**

*General landscape:* Mountains

*Major land resource area (MLRA):* 10

*Elevation:* 5,000 to 7,000 feet

*Mean annual precipitation:* 12 to 16 inches

*Mean annual air temperature:* 39 to 45 degrees F

*Frost-free period:* 50 to 90 days

### ***Map Unit Composition***

*Vitale and similar soils:* 45 percent

*Blackspar and similar soils:* 35 percent

*Dissimilar minor components:* 20 percent

### ***Characteristics of Vitale Soil***

#### **Setting**

*Landform:* Mountain slopes

*Downslope shape:* Convex

*Across-slope shape:* Convex

*Aspect (representative):* Southwest

*Aspect (range):* Southeast to west (clockwise)

**Properties and qualities**

*Parent material:* Slope alluvium and/or colluvium derived from welded tuff, rhyolite, quartz monzonite, sandstone, conglomerate, and/or siltstone

*Slope range:* 30 to 60 percent

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 1.7 inches)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SOUTH SLOPE GRAVELLY 12-16 ARTRV/PSSPS  
(R010AY009ID)

**Typical profile**

A—0 to 6 inches; very cobbly loam

Bt1—6 to 15 inches; very cobbly clay loam

Bt2—15 to 23 inches; very cobbly loam

R—23 to 33 inches; unweathered bedrock

***Characteristics of Blackspar Soil*****Setting**

*Landform:* Mountain slopes

*Downslope shape:* Linear

*Across-slope shape:* Convex

*Aspect (representative):* Southwest

*Aspect (range):* Southeast to west (clockwise)

**Properties and qualities**

*Parent material:* Colluvium over siltstone, sandstone, and/or conglomerate

*Slope range:* 30 to 60 percent

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Drainage class:* Well drained

*Capacity of the most limiting soil layer to transmit water (Ksat):* Moderately high

*Flooding frequency:* None

*Ponding frequency:* None

*Seasonal high water table (minimum depth):* More than 72 inches

*Salinity (maximum):* Nonsaline

*Sodicity (maximum):* Nonsodic

*Available water capacity (entire profile):* Very low (about 0.9 inch)

**Interpretive groups**

*Land capability subclass (nonirrigated):* 7e

*Ecological site:* SHALLOW STONY LOAM 8-16 ARAR8/PSSPS  
(R010AY007ID)

**Typical profile**

A—0 to 7 inches; very cobbly loam

Bt—7 to 17 inches; extremely cobbly loam

R—17 to 27 inches; unweathered bedrock

***Dissimilar Minor Components***

- Rock outcrop—10 percent
- Drage soils—5 percent
- Povey soils—5 percent

***Major Use***

Rangeland

***Management***

For general and detailed information about managing this map unit, see the following sections of this publication:

“Rangeland”

“Recreation”

“Wildlife Habitat”

“Engineering”

“Soil Properties”



## Use and Management of the Soils

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This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

### Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

### Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *somewhat limited*, and *very limited*. The suitability ratings are expressed as *well suited*, *moderately suited*, *poorly suited*, and *unsuited* or as *good*, *fair*, and *poor*.

### Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

## Crops and Pasture

Prepared by Carrie L. Janssen-Smith, conservation agronomist, Natural Resources Conservation Service.

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, and the system of land capability classification used by the Natural Resources Conservation Service is explained.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Historically, farms in the survey area averaged 150 to 300 acres in size and were mixed cattle and crop operations. Crop rotations of alfalfa, barley, and potatoes were common until cropping systems changed to primarily cash grain and alfalfa in the late 1980's. Today, agriculture continues to play an important role in the economy of the survey area. Approximately 50 percent of the farms are small ranching operations with use of supporting cropland and Federal grazing permits. Integrated farming and ranching operations that have cash crops average 50 to 100 head of cattle, and ranching operations that have only supporting hay or pasture average 300 to 500 head of cattle. In addition, there are several small dairies, a few large-sized sheep operations, and some flocks on small farms.

Alfalfa is the dominant crop grown in the area, with about 29,000 acres in production. The area produces premium dairy-quality hay, which is exported to dairies in southern Idaho and neighboring states. The number of annual alfalfa cuttings ranges from one to three, depending on elevation, variety, and management. The average is two cuttings at 4 tons per acre per year. Intensively managed acreage includes 3 to 5 years of alfalfa and 1 to 2 years of spring barley in rotation. Use of spring peas and oats as a nurse crop is common. An increase in the acreage used for grain occurred as a result of government programs and high prices, commonly with the consolidation of small farms into larger operations. Spring barley is the primary grain grown; however, the acreage used for malting barley is increasing. Grain acreages include 17,000 acres of barley with yields of 90 bushels per acre, 9,000 acres of spring wheat with yields of 90 bushels per acre, 1,900 acres of winter wheat with yields of 100 bushels per acre, and 1,000 acres of oats with yields of 80 bushels per acre. All of the grain in the survey area is grown under irrigation. The acreage planted to seed potatoes has declined in recent years because of the difficulty for many of the small producers to keep up with the changes in industry technology. A few farmers produce seed, fresh pack, and processing potatoes. There are approximately 3,000 acres used for potatoes, yielding an average of 240 hundredweights per acre.

Irrigated pasture and aftermath grazing on cropland provide a major portion of the feed for livestock in fall and early in winter. Improved crested wheatgrass pasture also provides some forage in spring.

Precipitation averages only about 10 inches, making irrigation essential for production of crops and pasture. On-farm wells and canals from the Mackay Reservoir provide irrigation water for the agricultural areas. The primary irrigation method used for crop production is sprinkler systems, but the number of center pivot



systems is increasing as smaller fields are consolidated. Wheeled and handline systems are common. Some flood systems are also maintained for crops and pasture.

Local differences in the climate and growing season affect crop yields. These differences are considered in the yield table. The number of frost-free days varies based on elevation; thus, the lower elevation and longer growing season of the Little Lost Valley and Howe area allows for an extra cutting of alfalfa during the growing season. The number of frost-free days around Arco and the Big Lost River Valley is about 85 days, while the number in the Little Lost Valley and Howe area is about 110 days.

Conventional tillage operations are used on the majority of the cropland in the survey area; however, use of conservation and no-till practices is increasing. The rate of soil erosion typically is low in nearly level areas. Some areas are susceptible to wind erosion. Producers are also recognizing the need for soil testing for commercial fertilizer application.

Much of the pastureland in the survey area is in poor condition and could benefit from more intensive management. Conservation practices such as use of rotation grazing, cross-fencing, stock water developments, fertilizing, irrigation water management, and reseeding with improved forage species can be used to improve these areas. Producers are becoming more aware of the impact of cattle on riparian areas and have begun to implement conservation practices such as use of fencing, stock water developments, herding, plantings, pest management, and buffers and easements.

Pest management practices are important in the survey area. Alfalfa production can be impacted by weed and pest infestations. Primary concerns in the area include the alfalfa weevil and pea aphid. Vigorous stands of alfalfa generally have few weed concerns. Other pests that can impact yields include gophers, ground squirrels, and voles. Grain crops in the area generally have few pests, but they can be affected by Russian wheat aphid, Fusarium diseases, and wild oats. Aphids can also impact seed potato production by the transmission of viruses that reduce the quality of the seed or render the crop unusable.

Noxious weeds that can affect acreages of crops, pasture, and range include leafy spurge, spotted knapweed, diffuse knapweed, Canada thistle, and Russian knapweed.

## **Yields per Acre**

The average yields per acre that can be expected of the principal crops under a high level of management are shown in the table [“Yields per Acre of Crops and Pasture.”](#) In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area is shown in the table [“Land Capability Classification.”](#)

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the yields table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

## Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961).

*Capability classes*, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

*Capability subclasses* are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or

cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

The capability classification of the soils in this survey area is given in the section "Detailed Soil Map Units" and the table ["Land Capability Classification."](#)

## Prime Farmland

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 8 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in this section. For some soils identified as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in the table ["Acreage and Proportionate Extent of the Soils."](#) The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units." The map units that meet the requirements for prime farmland are:

- 1 Arco silt loam, 0 to 2 percent slopes (if irrigated)
- 6 Blackfoot loam, 0 to 2 percent slopes (if irrigated and drained)
- 9 Bockston silt loam, 0 to 4 percent slopes (if irrigated)
- 10 Breitenbach gravelly loam, 1 to 4 percent slopes (if irrigated)
- 18 Crooked Creek silt loam, 0 to 2 percent slopes (if irrigated)
- 20 Darlington-Lesbut complex, 1 to 4 percent slopes (if irrigated)

26	Dredge loam, 1 to 5 percent slopes (if irrigated)
49	Kimama silt loam, 0 to 2 percent slopes (if irrigated)
71	Medicine-Whiteknob complex, 0 to 1 percent slopes (if irrigated)
72	Menan silt loam, 0 to 2 percent slopes (if irrigated)
74	Mooretown-Borah complex, 0 to 2 percent slopes (if irrigated and drained)
75	Mooretown-Borco complex, 0 to 2 percent slopes (if irrigated and drained)
95	Sanfelipe gravelly loam, 4 to 8 percent slopes (if irrigated)
109	Slide gravelly loam, 2 to 10 percent slopes (if irrigated)
114	Soen clay loam, 0 to 4 percent slopes
121	Stan sandy loam, 1 to 4 percent slopes (if irrigated)
122	Stan-Breitenbach complex, 1 to 4 percent slopes (if irrigated)
125	Techick-Soelberg complex, 4 to 8 percent slopes (if irrigated)
126	Techick-Soelberg-Lesbut complex, 0 to 4 percent slopes (if irrigated)
135	Whitecloud gravelly loam, 1 to 4 percent slopes (if irrigated)
136	Whitecloud-Sanfelipe complex, 0 to 4 percent slopes (if irrigated)

## Agricultural Waste Management

The titles of the tables described in this section are:

- [“Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge”](#)
- [“Agricultural Disposal of Wastewater by Irrigation and Overland Flow”](#)
- [“Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment”](#)

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

The tables described in this section show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. *Not limited* indicates that the soil has features that are very favorable

for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Application of manure and food-processing waste* not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include saturated hydraulic conductivity (Ksat), depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

*Application of sewage sludge* not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include saturated hydraulic conductivity (Ksat), depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the



application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

*Disposal of wastewater by irrigation* not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, saturated hydraulic conductivity (Ksat), slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

*Overland flow of wastewater* is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, saturated hydraulic conductivity (Ksat), depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

*Rapid infiltration of wastewater* is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Saturated hydraulic conductivity (Ksat) and reaction affect performance. Permanently frozen soils are unsuitable for waste treatment.

*Slow rate treatment of wastewater* is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption,

plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, saturated hydraulic conductivity (Ksat), depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

## Rangeland

Rangeland can be defined as land that is not currently under cultivation or other intensive agricultural uses primarily due to rough topography, shallow or stony soils, or colder temperatures. Characteristically, rangeland provides forage for domestic and native animals. Rangeland comprises most of the landscape in the survey area and is very important for use as livestock grazing, a source of wood products, recreation, and watershed for irrigation and domestic water supplies. Approximately 85 percent of the survey area is considered rangeland. The majority of the rangeland is public land administered by the Bureau of Land Management.

Most of the cultivated agricultural land is in the valleys of the Big and Little Lost Rivers, where the soils and water supply are adequate for improved pasture, alfalfa, and some annual grains. Rangeland extends from just outside the cultivated valley floors, from an elevation of about 5,200 feet to the foothills and mountainsides that range to about 10,000 feet.

Annual precipitation ranges from about 7 inches at the lower elevations to about 30 inches at the higher elevations. Most of the precipitation at the higher elevations falls as snow. Most of the rangeland vegetation is comprised of shrubs and perennial bunchgrasses. Common rangeland shrubs include basin big sagebrush, which grows to a height of 10 feet on the deeper, moister soils near creeks and flood plains. The most prevalent sagebrush is Wyoming big sagebrush, which is shorter than basin big sagebrush and grows to a height of about 3 to 4 feet. It is common at the lower to middle elevations throughout the survey area. Mountain big sagebrush is common at the middle to higher elevations and can become quite dense. Shrubs such as antelope bitterbrush, woods rose, snowberry, rabbitbrush, horsebrush, low sagebrush, and black sagebrush are also important components of the rangeland vegetation in some areas. The most common grasses are perennial bunchgrasses such as bluebunch wheatgrass, Idaho fescue, Indian ricegrass, ryegrasses, bluegrasses, and needlegrasses. Forbs also are a valuable component of the rangeland vegetation, including forage and wildflower varieties such as buckwheat, yarrow, phlox, bluebell, penstemon, and cactus. On mountains, the forested north-facing slopes and higher elevations have an overstory of Douglas-fir. Shrubs such as mountain big sagebrush, snowberry, and mountain mahogany commonly are associated with the Douglas-fir.

Much of the rangeland in basins is associated with either perennial or seasonal creeks. The vegetation in these riparian areas is comprised of cottonwood, willow, dogwood, alder, and birch with an understory of sedges, rushes, and perennial grasses. Riparian areas provide important habitat for wildlife. The vegetation provides shade for maintaining water temperatures and provides streambank stabilization. Hillside springs and seeps support basin wildrye and some patches of aspen.

Rangeland vegetation provides essential forage for domestic livestock grazing, most of which are beef cattle with some sheep and horses. Livestock typically are grazed on public range allotments, which are used from late in May until early in November. The allotments are associated with a home ranch and are crucial to many

livestock producers. It is usually desirable to have the livestock graze the lower elevations of the range first and then move higher into the mountains. Livestock typically are removed from this range in fall to use pasture on private grazing land. Most cattle are fed hay in winter.

Most of the perennial rangeland grasses reproduce by seed. Management of the bunchgrasses commonly consists of some form of rotation grazing. Rotation grazing incorporates a rest or deferment period when livestock are moved from pasture to pasture and a period to allow for the grasses to set seed. Salting, riding, and herding are common practices used to help achieve the desired livestock distribution. Range improvements typically include fencing to protect the riparian areas and to divide the grazing areas and stock water developments. Riparian areas are a crucial component of most rangeland management plans.

In areas that have similar climate and topography, differences in the kind and amount of rangeland or forest understory vegetation are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

The table [“Rangeland Productivity and Characteristic Plant Communities”](#) shows, for each soil that supports vegetation suitable for grazing, the ecological site; the total annual production of vegetation in favorable, normal, and unfavorable years; the characteristic vegetation; and the average percentage of each species. An explanation of the column headings in the table follows.

An *ecological site* is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of the site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

*Total dry-weight production* is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

*Characteristic vegetation* (the grasses, forbs, and shrubs that make up most of the potential natural plant community on each soil) is listed by common name. Under *rangeland composition*, the expected percentage of the total annual production is given for each species making up the characteristic vegetation. The amount that can be used as forage depends on the kinds of grazing animals and on the grazing season.

Range management requires a knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular



rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in the "National Range and Pasture Handbook," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

## Recreational Development

The titles of the tables described in this section are:

- "Camp Areas, Picnic Areas, and Playgrounds"
- "Paths, Trails, and Golf Fairways"

In the tables described in this section, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in these tables can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

*Camp areas* require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some

vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, saturated hydraulic conductivity (Ksat), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity (Ksat), and toxic substances in the soil.

*Picnic areas* are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, saturated hydraulic conductivity (Ksat), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity (Ksat), and toxic substances in the soil.

*Playgrounds* require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, saturated hydraulic conductivity (Ksat), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity (Ksat), and toxic substances in the soil.

*Paths and trails* for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

*Off-road motorcycle trails* require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

*Golf fairways* are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

## Wildlife Habitat

Ronald E. Gill, biologist, Natural Resources Conservation Service, Pocatello, Idaho.

Wildlife in the survey area is related to soils because of the different habitats that soils support. Soils are a representation of the landform and the climate and are a major factor in defining and limiting habitat. The varied topography, climate, and land uses in the survey area produce a variety of wildlife habitats.

Terrestrial habitats differ in their capacity to provide the essential food, water, and cover. Some of these differences are because of the characteristics of soils, while others are a result of land use and management. Sound conservation planning based on soil information will benefit wildlife as well as other natural resources.

Aquatic habitats also benefit from sound conservation planning. The benefits can be indirect because land use practices on the surrounding landscape can have a profound effect on water quality as a result of runoff. Sound conservation management of the surrounding watershed is as important as conservation practices applied within the stream channels.

### Big game

Big game in the survey area consists of elk, mule deer, mountain goat, bighorn sheep, moose, and antelope. In general, elk and mule deer migrate out of the survey area in summer. Elk stay in the higher foothills and mountains (general soil map units 10, 11, 12, and 13) and on the lava plains (general soil map units 5, 6, 7, 8, and 9). Mule deer use all of the general soil map units in the survey area. Moose are associated with riparian areas, but they winter on south-facing slopes in areas of sagebrush habitat near heavier cover. Mountain goat and bighorn sheep stay in the higher areas outside of the survey area most of the year. Antelope reside at the lower elevations on the Snake River plain and in the river valleys. Their summer range corresponds to the major drainageways and higher benches, and their winter range is dominantly areas of sagebrush/grass plant communities.

### Amphibians and reptiles

Amphibians include salamanders, frogs, and toads. Amphibians require water or a very damp soil to complete their life cycle. Reptiles are adapted to a completed terrestrial life style. The body temperature of amphibians and reptiles is determined by their surroundings.

Amphibians require water for reproduction. Soils associated with water features, such as wetlands, wet meadows, or irrigated cropland, provide habitat for amphibians. Amphibians in the survey area include long-toed salamander, western toad, Pacific chorus frog, and northern leopard frog.

Reptiles in the area are lizards and snakes. Turtles are not native to the area, although an occasional box turtle may be present. Common reptiles are sagebrush lizard, short-horned lizard, rubber boa, gopher snake, and western terrestrial garter snake. The best known reptile is the western rattlesnake. This species can tolerate a wider range of habitats and elevations than any other reptile in Idaho.

### Birds

Common upland game birds include the native sage grouse and the introduced ring-necked pheasant and Hungarian partridge (both associated with cropland) and chukar partridge (generally found on rocky slopes and in desert areas with grassy vegetation).

In general, waterfowl migrate through the survey area. Small populations of Canada geese, mallards, and redheads nest and rear their young in habitats associated with the Big and Little Lost Rivers in areas of soils on stream terraces, flood plains, and fan terraces in general soil map units 1 and 2.

Potentially more than 100 species of nongame birds may nest in the survey area. Mountain bluebird commonly resides in the area in summer, generally on the edges of forest habitats. Mountain bluebird responds well to nest boxes; thus, it may be found in many habitats. Most species use riparian habitat associated with general soil map units 1 and 2. Migratory routes are along all major drainageways in the area. The quality of the riparian areas along the drainageways determines the potential use for nongame birds. Riparian areas provide for the most diverse bird populations. Common birds in riparian areas are song sparrow, yellow warbler, black-capped chickadee, and several species of swallow. Good management of riparian areas can greatly improve habitat for nongame birds.

Another important habitat is the sagebrush zone that has a well-developed plant understory. This zone provides habitat for animals known as sagebrush obligates. Some of these species, such as sage grouse and pigmy rabbit, are linked to sagebrush by their diet. Others, such as grasshopper mouse and short-horned lizard, have become highly adapted to the sagebrush ecotype. This habitat type is on the lava plains in general soil map units 5, 6, 7, 8, and 9 and on the fan remnants and foothills in general soil map units 3 and 4.

Hawks, eagles, and owls are throughout the survey area. Species include bald eagle, golden eagle, ferruginous hawk, and Swainson's hawk. Bald eagles generally use the area in spring and fall, but the other three birds commonly are along all of the drainageways in all of the general soil map units.

#### **Furbearers**

Furbearers, such as river otter, beaver, mink, raccoon, and muskrat, are most common in and adjacent to streams in general soil map units 1 and 2. Red fox and coyote are also common throughout the survey area.

#### **Fisheries**

Game fish associated with the Big and Little Lost Rivers are dominantly introduced rainbow and brook trout. These rivers are called the isolated drainageways by some fisheries biologists. Because they are not connected to other watersheds, there are few native fish species. Bull trout is a native species in the Little Lost River. Other native fish are Piute sculpin and shorthead sculpin. These rivers are associated with general soil map units 1 and 2.

#### **Threatened and endangered species**

There are five species in the survey area listed under the Endangered Species Act. They are gray wolf, bald eagle, Canada lynx, bull trout, and Ute lady's tresses. Gray wolf, bald eagle, and Canada lynx occur at very low densities and are usually sighted travelling through the area. Bull trout are in the Little Lost River, which has been proposed as critical habitat for the species. Potential habitat for Ute lady's tresses, which is a small white orchid, is in areas of fine-textured soils in wet meadows and adjacent to streams.

## **Engineering**

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

*Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7*

*feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.*

*The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.*

*Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.*

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, saturated hydraulic conductivity (Ksat), corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

## **Building Site Development**

The titles of the tables described in this section are:

- [“Dwellings and Small Commercial Buildings”](#)
- [“Roads and Streets, Shallow Excavations, and Lawns and Landscaping”](#)

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. The tables described in this section show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome.



without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Dwellings* are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Small commercial buildings* are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Local roads and streets* have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

*Shallow excavations* are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

*Lawns and landscaping* require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings.

The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

## Sanitary Facilities

The table described in this section shows the degree and kind of soil limitations that affect [septic tank absorption fields, sewage lagoons, and daily cover for landfill](#). The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Septic tank absorption fields* are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches or between a depth of 24 inches and a restrictive layer is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

*Sewage lagoons* are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Saturated hydraulic conductivity (Ksat) is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a Ksat rate of more than 14 micrometers per second are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination

is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

*Daily cover for landfill* is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

## Construction Materials

The titles of the tables described in this section are:

- [“Source of Gravel, Sand, and Topsoil”](#)
- [“Source of Reclamation Material and Roadfill”](#)

These tables give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

*Gravel* and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the table “Source of Gravel, Sand and Topsoil,” only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that



the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The rating class terms used for topsoil, reclamation material, and roadfill are *good*, *fair*, and *poor*. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, and roadfill. The lower the number, the greater the limitation.

*Topsoil* is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

*Reclamation material* is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

*Roadfill* is soil material that is excavated in one place and used in road embankments in another place. In the table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

## Water Management

The table described in this section gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for [pond reservoir areas and embankments, dikes, and levees](#). The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that

the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Pond reservoir areas* hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the saturated hydraulic conductivity ( $K_{sat}$ ) of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

*Embankments, dikes, and levees* are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

# Soil Properties

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Data relating to soil properties are collected during the course of the soil survey.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

## Engineering Soil Properties

The table described in this section gives the engineering classifications and the range of [engineering properties](#) for the layers of each soil in the survey area.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

*Rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages

are estimates determined mainly by calculating volume percentage to weight percentage.

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on a calculation of total sand, silt, and clay and the various sand-sized fractions.

*Liquid limit* and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on a calculation of soil properties, including organic matter, linear extensibility, total clay, and clay-sized carbonate.

## Physical Soil Properties

The table described in this section shows estimates of some [physical characteristics and features](#) that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller. Only the clay-sized particles are shown.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity ( $K_{sat}$ ), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

*Moist bulk density* is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at  $1/3$ - or  $1/10$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

*Saturated hydraulic conductivity ( $K_{sat}$ )* refers to the ability of a soil to transmit water or air. The estimates in the table indicate the rate of water movement, in micrometers per second, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity ( $K_{sat}$ ) is considered in the design of soil drainage systems and septic tank absorption fields.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per

inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Linear extensibility* refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at  $\frac{1}{3}$ - or  $\frac{1}{10}$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

*Erosion factors* are shown in the table as the K factor ( $K_w$  and  $K_f$ ) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity ( $K_{sat}$ ). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor  $K_w$*  indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor  $K_f$*  indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

## Chemical Properties

The table described in this section shows estimates of some [chemical characteristics and features](#) that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Cation-exchange capacity (CEC)* is the total amount of extractable bases that can be held by the soil, expressed in terms of centimoles per kilogram. It commonly is measured at neutral pH of 7.0 (CEC-7), but it may be measured at some other stated pH value. Soils that have a low CEC hold fewer cations and may require more frequent applications of fertilizer than those that have a high CEC. The ability to retain cations minimizes the risk of ground-water pollution.

*Soil reaction* is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

*Calcium carbonate equivalent* is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

*Salinity* is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

*Sodium adsorption ratio (SAR)* is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced saturated hydraulic conductivity and aeration, and a general degradation of soil structure.

## Water Features

The table described in this section gives estimates of various [water features](#). The estimates are used in land use planning that involves engineering considerations.

*Hydrologic soil groups* are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.



Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

*Water table* refers to a saturated zone in the soil. The table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

*Ponding* is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

*Flooding* is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

*Duration and frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

## Soil Features

The table described in this section gives estimates of various [soil features](#). The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*Subsidence* is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

*Potential for frost action* is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity ( $K_{sat}$ ), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

*Risk of corrosion* pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.



# Classification of the Soils

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The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1975 and 1994). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. The categories are defined in the following paragraphs.

**ORDER.** Eleven soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Mollisol.

**SUBORDER.** Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Xeroll (*Xer*, meaning dry, plus *oll*, from Mollisol).

**GREAT GROUP.** Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haploxerolls (*Hapl*, meaning minimal horization, plus *xeroll*, the suborder of the Mollisols that has a xeric moisture regime).

**SUBGROUP.** Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Haploxerolls.

**FAMILY.** Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, frigid Typic Haploxerolls.

**SERIES.** The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

The table [“Taxonomic Classification of the Soils”](#) indicates the order, suborder, great group, subgroup, and family of the soil series in the survey area.

## Taxonomic Units and Their Morphology

In this section, each taxonomic unit recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each

unit. A pedon, a small three-dimensional area of soil, that is typical of the taxonomic unit in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1975) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 1994). Unless otherwise indicated, colors in the descriptions are for dry soil. Following the pedon description is the range of important characteristics of the soils in the unit.

## **Adek Series**

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Mountains

*Landform:* Ridges

*Parent material:* Colluvium and slope alluvium derived from limestone

*Slope range:* 5 to 50 percent

*Elevation:* 6,300 to 8,000 feet

*Mean annual precipitation:* 12 to 16 inches

*Mean annual air temperature:* 36 to 42 degrees F

*Frost-free period:* 40 to 60 days

*Taxonomic class:* Loamy-skeletal, carbonatic Typic Cryochrepts

### **Typical Pedon**

Adek gravelly loam in an area of Leatherman-Adek association, 5 to 50 percent slopes, Butte County, Idaho, about one-half mile northwest of Hawley Mountain; about 1,500 feet south and 100 feet east of the northwest corner of section 3, T. 9 N., R. 26 E.

- A1—0 to 2 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; weak medium platy structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 25 percent gravel, 5 percent cobbles, and 1 percent stones; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.
- A2—2 to 7 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 5/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; 20 percent gravel, 2 percent cobbles, and 1 percent stones; strongly effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); clear wavy boundary.
- 2Bkq1—7 to 9 inches; light gray (10YR 7/2) extremely gravelly loam, brown (10YR 5/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine, fine, and medium roots; few very fine tubular pores; 60 percent gravel, 5 percent cobbles, and 1 percent stones; violently effervescent; common calcium carbonate and silica coatings 2 to 5 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); gradual wavy boundary.
- 2Bkq2—9 to 19 inches; very pale brown (10YR 7/3) extremely gravelly loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; hard, firm, nonsticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 60 percent gravel, 5 percent cobbles, and 1 percent stones; violently effervescent; common calcium carbonate and silica coatings 2 to 4 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); clear wavy boundary.

- 2Bkq3—19 to 30 inches; very pale brown (10YR 8/2) extremely gravelly loam, pale brown (10YR 6/3) moist; massive; hard, friable, nonsticky and nonplastic; few very fine and fine roots; common very fine tubular pores; 70 percent gravel, 10 percent cobbles, and 1 percent stones; violently effervescent; common calcium carbonate and silica coatings 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.
- 2Bkq4—30 to 41 inches; light gray (10YR 7/2) extremely gravelly loam, grayish brown (10YR 5/2) moist; massive; weakly cemented in places; hard, firm, nonsticky and nonplastic; few very fine roots; few very fine irregular pores; 65 percent gravel, 10 percent cobbles, and 1 percent stones; violently effervescent; common calcium carbonate and silica coatings 1 millimeter thick on underside of rock fragments; strongly alkaline (pH 8.5); gradual wavy boundary.
- 2Bkq5—41 to 60 inches; light gray (10YR 7/2) extremely cobbly loam, grayish brown (10YR 5/2) moist; massive; weakly cemented in places; hard, friable, nonsticky and nonplastic; few very fine roots; few very fine irregular pores; 35 percent gravel, 40 percent cobbles, and 1 percent stones; violently effervescent; common calcium carbonate and silica coatings 1 millimeter thick on underside of rock fragments; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature (2Bkq horizon):* 2 to 7 inches to high content of carbonates

*Depth to calcic horizon:* 2 to 7 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 35 percent gravel, cobbles, and stones

Calcium carbonate equivalent—15 to 25 percent

Reaction—slightly alkaline or moderately alkaline

*2Bkq horizon:*

Hue—10YR

Value—6 to 8 dry, 4 to 6 moist

Chroma—2 or 3 dry or moist

Texture—extremely gravelly loam or extremely cobbly loam

Content of rock fragments—60 to 85 percent gravel, cobbles, and stones

Calcium carbonate equivalent—40 to 60 percent

Reaction—moderately alkaline or strongly alkaline

### ***Arco Series***

*Depth class:* Very deep

*Drainage class:* Somewhat poorly drained

*Landscape:* Plains

*Landform:* Stream terraces, flood plains

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Elevation:* 4,700 to 5,900 feet

*Mean annual precipitation:* 8 to 12 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Fine-silty, mixed, frigid Aquic Calcixerolls

### ***Typical Pedon***

Arco silt loam, 0 to 2 percent slopes, Butte County, Idaho, about 0.5 mile west of Arco, Idaho; about 1,770 feet south and 420 feet east of the northwest corner of section 36, T. 4 N., R. 26 E.

- A—0 to 4 inches; gray (10YR 5/1) silt loam, very dark gray (10YR 3/1) moist; moderate medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and few fine roots; common very fine tubular pores; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
- Bw—4 to 15 inches; gray (10YR 5/1) silt loam, very dark gray (10YR 3/1) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine and few fine tubular pores; strongly effervescent; moderately alkaline (pH 7.9); gradual wavy boundary.
- Bk—15 to 26 inches; light brownish gray (10YR 6/2) silt loam, dark grayish brown (10YR 4/2) moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and few fine and medium roots; many very fine tubular pores; strongly effervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.
- Bkg1—26 to 32 inches; light gray (5Y 6/1) silt loam, gray (5Y 5/1) moist; few fine faint redoximorphic concentrations that are light yellowish brown (10YR 6/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; common very fine and many fine tubular pores; violently effervescent; moderately alkaline (pH 7.9); clear wavy boundary.
- Bkg2—32 to 45 inches; gray (5Y 5/1) silt loam, dark gray (5Y 4/1) moist; common medium faint redoximorphic concentrations that are light yellowish brown (10YR 6/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; common very fine, many fine, and few medium tubular pores; many calcium carbonate threads; violently effervescent; moderately alkaline (pH 7.9); clear wavy boundary.
- Bg—45 to 60 inches; gray (5Y 5/1) silt loam, dark gray (5Y 4/1) moist; common fine faint redoximorphic concentrations that are light yellowish brown (10YR 6/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine roots; few fine tubular pores; slightly effervescent; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Frequency of flooding:* Occasional

*Depth to water table:* 2 to 3 feet in April through June

*Thickness of mollic epipedon:* 11 to 20 inches

*Depth to calcic horizon:* 11 to 20 inches

#### *A horizon:*

Hue—10YR or 2.5Y

Value—4 or 5 dry, 2 or 3 moist

Chroma—1 or 2 dry or moist

Texture—silt loam

Calcium carbonate equivalent—10 to 25 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bw horizon:*

Hue—10YR or 2.5Y

Value—4 or 5 dry, 2 or 3 moist

Chroma—1 or 2 dry or moist

Texture—silt loam

Calcium carbonate equivalent—15 to 30 percent  
Reaction—slightly alkaline or moderately alkaline

*Bk horizon:*

Hue—10YR or 2.5Y  
Value—5 to 7 dry, 3 to 5 moist  
Chroma—1 or 2 dry or moist  
Texture—silt loam or silty clay loam  
Calcium carbonate equivalent—15 to 30 percent  
Reaction—slightly alkaline or moderately alkaline

*Bkg and Bg horizons:*

Hue—10YR, 2.5Y, or 5Y  
Value—5 to 7 dry, 4 to 6 moist  
Chroma—1 or 2 dry or moist  
Texture—silt loam, silty clay loam, or gravelly loam  
Content of rock fragments—0 to 25 percent gravel  
Calcium carbonate equivalent—0 to 20 percent  
Reaction—slightly alkaline or moderately alkaline

## **Atom Series**

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Mixed alluvium

*Slope range:* 1 to 20 percent

*Elevation:* 4,500 to 5,800 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 110 days

*Taxonomic class:* Coarse-silty, mixed, frigid Sodic Xeric Haplocalcids

### **Typical Pedon**

Atom silt loam, 3 to 8 percent slopes, Bingham County, Idaho, about 0.5 mile northeast of Middle Butte and 4 miles northwest of Atomic City, Idaho; about 2,400 feet north and 700 feet east of the southwest corner of section 16, T. 2 N., R. 32 E.

A1—0 to 3 inches; pale brown (10YR 6/3) silt loam, dark brown (10YR 3/3) moist; moderate very thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many fine vesicular pores; 2 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

A2—3 to 10 inches; pale brown (10YR 6/3) silty clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and moderately plastic; common fine and very fine roots; common very fine tubular pores; 1 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bkq—10 to 29 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine irregular pores; common coarse hard rounded nodules; cicada krotovinas; 1 percent gravel; violently effervescent; common calcium carbonate and silica coatings 1 millimeter thick on underside of gravel; strongly alkaline (pH 8.5); clear wavy boundary.

Bk1—29 to 39 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; 1 percent gravel; violently effervescent; common calcium carbonate coatings 1 millimeter thick on underside of gravel; strongly alkaline (pH 8.5); clear smooth boundary.

Bk2—39 to 60 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; 5 percent gravel; violently effervescent; common calcium carbonate coatings 1 millimeter thick on underside of gravel; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to calcic horizon:* 7 to 12 inches

#### *A1 horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Content of rock fragments—0 to 5 percent gravel

Calcium carbonate equivalent—0 to 10 percent

Sodium adsorption ratio—0 to 5

Reaction—slightly alkaline or moderately alkaline

#### *A2 horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—silty clay loam

Content of rock fragments—5 to 15 percent gravel

Calcium carbonate equivalent—5 to 15 percent

Sodium adsorption ratio—0 to 5

Reaction—slightly alkaline or moderately alkaline

#### *Bkq and Bk horizons:*

Hue—10YR

Value—6 or 7 dry, 4 to 6 moist

Chroma—2 or 3 dry or moist

Texture—loam, silt loam, silty clay loam, or clay loam

Content of rock fragments—0 to 5 percent gravel

Calcium carbonate equivalent—15 to 40 percent

Sodium adsorption ratio—13 to 30

Reaction—strongly alkaline or very strongly alkaline

## ***Atomic Series***

*Depth class:* Deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Mixed alluvium and loess over basalt

*Slope range:* 0 to 8 percent

*Elevation:* 4,600 to 5,400 feet



*Mean annual precipitation:* 10 to 12 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 80 to 90 days

*Taxonomic class:* Coarse-loamy, mixed, frigid Xeric Haplocalcids

### ***Typical Pedon***

Atomic loam in an area of Splittop-Atomic complex, 0 to 8 percent slopes, Bingham County, Idaho, about 4.2 miles northeast of Coffee Point; about 1,350 feet north and 3,300 feet west of the southeast corner of section 19, T. 2 S., R. 30 E.

A1—0 to 5 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate very thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine, fine, and medium vesicular pores; 2 percent gravel; moderately alkaline (pH 7.9); abrupt smooth boundary.

A2—5 to 15 inches; pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; moderate very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 1 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bkq—15 to 22 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; hard, firm, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine irregular pores; many coarse hard rounded nodules; cicada krotovinas; 1 percent gravel; common calcium carbonate and silica coatings 1 millimeter thick on underside of gravel; violently effervescent; moderately alkaline (pH 8.2); gradual wavy boundary.

Bk1—22 to 34 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and fine tubular pores; common hard medium and coarse nodules; cicada krotovinas; 4 percent gravel; common calcium carbonate coatings 1 millimeter thick on underside of gravel; violently effervescent; strongly alkaline (pH 8.5); gradual smooth boundary.

Bk2—34 to 46 inches; pale brown (10YR 6/3) cobbly silt loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; few very fine and fine roots; few very fine tubular pores; 10 percent gravel, 10 percent cobbles, and 1 percent stones; common calcium carbonate coatings 1 to 2 millimeters thick on underside of rock fragments; violently effervescent; strongly alkaline (pH 8.5); abrupt smooth boundary.

2R—46 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Depth to calcic horizon:* 7 to 24 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 3 percent gravel

Calcium carbonate equivalent—0 to 5 percent

Reaction—slightly alkaline or moderately alkaline

*Bkq and Bk horizons:*

Hue—10YR

Value—6 to 8 dry, 4 to 6 moist

Chroma—2 to 4 dry or moist

Texture—silt loam or cobbly silt loam

Content of rock fragments—0 to 25 percent gravel, cobbles, and stones

Calcium carbonate equivalent—5 to 40 percent

Reaction—slightly alkaline to strongly alkaline

***Bealand Series****Depth class:* Very deep*Drainage class:* Well drained*Landscape:* Foothills, mountains*Landform:* Hillslopes, mountain slopes*Parent material:* Colluvium and slope alluvium derived from limestone*Slope range:* 20 to 70 percent*Elevation:* 6,000 to 8,500 feet*Mean annual precipitation:* 9 to 15 inches*Mean annual air temperature:* 38 to 43 degrees F*Frost-free period:* 40 to 55 days*Taxonomic class:* Loamy-skeletal, carbonatic Typic Cryochrepts***Typical Pedon***

Bealand gravelly loam in an area of Bealand-Zeale complex, 10 to 70 percent slopes, Butte County, Idaho, about 5 miles east of Moore, Idaho; about 100 feet north and 500 feet east of the southwest corner of section 19, T. 5 N., R. 27 E.

A—0 to 5 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common medium roots; many fine and very fine tubular pores; 20 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

BAk—5 to 10 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine roots; many very fine and fine and common medium tubular pores; 30 percent gravel; strongly effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of gravel; moderately alkaline (pH 7.9); clear smooth boundary.

Bk1—10 to 26 inches; light gray (10YR 7/2) very gravelly loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores; 40 percent gravel; violently effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of gravel; moderately alkaline (pH 7.9); clear smooth boundary.

Bk2—26 to 39 inches; light gray (10YR 7/2) very gravelly loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores; 45 percent gravel; strongly effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of gravel; moderately alkaline (pH 7.9); clear wavy boundary.

Bkq—39 to 60 inches; light gray (10YR 7/2) very gravelly loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots and some root matting on gravel; 35 percent gravel; strongly effervescent; common calcium carbonate coatings and few silica coatings 1 to 2 millimeters thick on underside of gravel; moderately alkaline (pH 7.9).



***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to calcic horizon:* 4 to 10 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 25 percent gravel

Calcium carbonate equivalent—15 to 35 percent

Reaction—slightly alkaline or moderately alkaline

*BAk horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—gravelly loam, gravelly silt loam, or very gravelly loam

Content of rock fragments—15 to 50 percent gravel

Calcium carbonate equivalent—35 to 40 percent

Reaction—slightly alkaline or moderately alkaline

*Bk and Bkq horizons:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly loam or very gravelly silt loam

Content of rock fragments—35 to 50 percent gravel

Calcium carbonate equivalent—40 to 50 percent

Reaction—slightly alkaline or moderately alkaline

***Beartrap Series***

*Depth class:* Deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains, mounds

*Parent material:* Mixed alluvium and eolian deposits over basalt

*Slope range:* 2 to 20 percent

*Elevation:* 4,600 to 5,600 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Coarse-loamy, mixed, frigid Aridic Calcixerolls

***Typical Pedon***

Beartrap loam in an area of McCarey-Beartrap complex, 1 to 6 percent slopes, Blaine County, Idaho, about 6.7 miles south of Pratt Butte; about 2,800 feet south and 2,500 feet west of the northeast corner of section 30, T. 2 S., R. 28 E.

A1—0 to 2 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak fine and medium granular structure; soft, very friable, nonsticky and nonplastic; many very fine, fine, and medium roots; many very fine, fine, and medium irregular pores; strongly effervescent; slightly alkaline (pH 7.6); abrupt smooth boundary.

A2—2 to 16 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate

fine and medium granular structure; soft, friable, nonsticky and nonplastic; many very fine, fine, and medium roots; many very fine and fine irregular pores; slightly effervescent; slightly alkaline (pH 7.6); clear smooth boundary.

Bk1—16 to 19 inches; light yellowish brown (10YR 6/4) fine sandy loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; slightly hard, firm, nonsticky and nonplastic; many very fine and fine and few medium roots; many very fine and fine tubular pores; 5 percent cobbles; strongly effervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.

Bk2—19 to 43 inches; light gray (10YR 7/2) fine sandy loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure; slightly hard, firm, nonsticky and nonplastic; common very fine and fine roots; common very fine and fine tubular pores; 10 percent cobbles; violently effervescent; moderately alkaline (pH 7.9); gradual wavy boundary.

Bk3—43 to 52 inches; very pale brown (10YR 8/2) fine sandy loam, pale brown (10YR 6/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; common very fine and fine roots; common very fine tubular pores; violently effervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.

R—52 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Thickness of mollic epipedon:* 10 to 16 inches

*Depth to calcic horizon:* 10 to 16 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 5 percent gravel

Calcium carbonate equivalent—5 to 15 percent

Reaction—slightly alkaline

*Bk1 horizon:*

Hue—10YR

Value—5 or 6 dry, 4 or 5 moist

Chroma—2 to 4 dry or moist

Texture—fine sandy loam

Content of rock fragments—0 to 15 percent gravel and cobbles

Calcium carbonate equivalent—15 to 40 percent

Reaction—slightly alkaline or moderately alkaline

*Bk2 and Bk3 horizons:*

Hue—10YR

Value—6 to 8 dry, 5 or 6 moist

Chroma—2 or 3 dry or moist

Texture—fine sandy loam

Content of rock fragments—0 to 15 percent gravel and cobbles

Calcium carbonate equivalent—15 to 40 percent

Reaction—slightly alkaline or moderately alkaline

### ***Bigrant Series***

*Depth class:* Very deep

*Drainage class:* Poorly drained

*Landscape:* Plains

*Landform:* Stream terraces

*Parent material:* Mixed alluvium

*Slope range:* 0 to 4 percent

*Elevation:* 5,200 to 5,700 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 37 to 39 degrees F

*Frost-free period:* 35 to 55 days

*Taxonomic class:* Fine-loamy, mixed, calcareous Typic Cryaquepts

### ***Typical Pedon***

Bigrant silt loam in an area of Dickeypeak-Bigrant complex, 0 to 4 percent slopes, Butte County, Idaho, about 15 miles northwest of Howe, Idaho; about 500 feet north and 1,200 feet east of the southwest corner of section 8, T. 7 N., R. 28 E.

Ak—0 to 8 inches; light brownish gray (10YR 6/2) silt loam, dark grayish brown (10YR 4/2) moist; common fine distinct redoximorphic concentrations that are strong brown (7.5YR 5/6) moist; moderate fine subangular blocky structure parting to moderate fine granular; soft, very friable, slightly sticky and moderately plastic; many fine and medium and few very fine roots; common fine and medium irregular pores; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bkg1—8 to 23 inches; light brownish gray (2.5Y 6/2) silt loam, dark grayish brown (10YR 4/2) moist; moderate fine subangular blocky structure parting to moderate fine granular; slightly hard, very friable, slightly sticky and moderately plastic; common medium roots; many very fine and fine irregular pores; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bkg2—23 to 35 inches; light brownish gray (2.5Y 6/2) silty clay loam, very dark grayish brown (2.5Y 3/2) moist; many large prominent redoximorphic depletions that are black (10YR 2/1) moist; moderate fine subangular blocky structure parting to moderate fine granular; slightly hard, friable, moderately sticky and moderately plastic; many very fine and fine irregular pores; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Cg—35 to 60 inches; light brownish gray (2.5Y 6/2) clay, very dark grayish brown (2.5Y 3/2) moist; many large prominent redoximorphic concentrations that are dark yellowish brown (10YR 4/6) moist; massive; hard, firm, moderately sticky and moderately plastic; common fine irregular pores; 10 percent gravel; strongly effervescent; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Frequency of flooding:* Occasional

*Depth to water table:* 0.5 to 1.5 feet in April through July

*Depth to calcic horizon:* 3 to 12 inches

*Ak horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—1 or 2 dry or moist

Texture—silt loam

Calcium carbonate equivalent—15 to 30 percent

Reaction—slightly alkaline or moderately alkaline

*Bkg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—6 or 7 dry, 3 to 5 moist  
 Chroma—1 to 3 dry or moist  
 Texture—silt loam or silty clay loam  
 Calcium carbonate equivalent—15 to 35 percent  
 Reaction—slightly alkaline or moderately alkaline

*Cg horizon:*

Hue—2.5Y or 5Y  
 Value—5 or 6 dry, 2 or 3 moist  
 Chroma—1 to 3 dry or moist  
 Texture—clay  
 Content of rock fragments—0 to 10 percent gravel  
 Calcium carbonate equivalent—20 to 35 percent  
 Reaction—slightly alkaline or moderately alkaline

The Bigrant soils in this survey area are a taxadjunct to the Bigrant series because they do not have a mollic epipedon.

## ***Blackfoot Series***

*Depth class:* Very deep  
*Drainage class:* Somewhat poorly drained  
*Landscape:* Plains  
*Landform:* Flood plains  
*Parent material:* Mixed alluvium  
*Slope range:* 0 to 2 percent  
*Elevation:* 4,800 to 6,300 feet  
*Mean annual precipitation:* 9 to 12 inches  
*Mean annual air temperature:* 42 to 45 degrees F  
*Frost-free period:* 50 to 90 days

*Taxonomic class:* Fine-loamy, mixed, frigid Fluvaquentic Haploxerolls

### ***Typical Pedon***

Blackfoot loam, 0 to 2 percent slopes, Butte County, Idaho, about 1 mile northeast of Moore, Idaho; about 2,500 feet north and 1,000 feet east of the southwest corner of section 22, T. 5 N., R. 26 E.

- Ap—0 to 7 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; common very fine tubular pores; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.
- Bw—7 to 13 inches; brown (10YR 5/3) loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine tubular pores; slightly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.
- Bk—13 to 26 inches; light brownish gray (10YR 6/2) silty clay loam, dark grayish brown (10YR 4/2) moist; weak thick platy structure parting to moderate medium subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; common very fine tubular pores; strongly effervescent; moderately alkaline (pH 7.9); gradual wavy boundary.
- Bkg—26 to 48 inches; light brownish gray (10YR 6/2) loam, very dark grayish brown (10YR 3/2) moist; few fine faint brown (10YR 5/3) redoximorphic concentrations; weak coarse subangular blocky structure; slightly hard, friable, slightly sticky and

slightly plastic; few very fine roots; common very fine tubular pores; strongly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

Bg—48 to 60 inches; grayish brown (10YR 5/2) silty clay loam, very dark grayish brown (10YR 3/2) moist; few fine faint brown (10YR 5/3) redoximorphic concentrations; massive; slightly hard, very friable, slightly sticky and moderately plastic; few very fine roots; common very fine tubular pores; slightly effervescent; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to water table:* 1.5 to 3.0 feet in March through October

*Thickness of mollic epipedon:* 13 to 20 inches

*Ap and Bw horizons:*

Hue—10YR or 2.5Y

Value—4 or 5 dry, 2 or 3 moist

Chroma—1 or 2 dry or moist

Texture—loam

Content of rock fragments—0 to 5 percent gravel

Calcium carbonate equivalent—0 to 15 percent

Reaction—slightly alkaline or moderately alkaline

*Bk, Bkg, and Bg horizons:*

Hue—10YR or 2.5Y

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—loam, fine sandy loam, silt loam, silty clay loam, or clay loam

Content of rock fragments—0 to 5 percent gravel

Calcium carbonate equivalent—0 to 35 percent

Reaction—slightly alkaline or moderately alkaline

## ***Blackspar Series***

*Depth class:* Shallow

*Drainage class:* Well drained

*Landscape:* Mountains

*Landform:* Mountain slopes

*Parent material:* Colluvium over siltstone, sandstone, and conglomerate

*Slope range:* 10 to 60 percent

*Elevation:* 5,000 to 8,500 feet

*Mean annual precipitation:* 12 to 16 inches

*Mean annual air temperature:* 39 to 45 degrees F

*Frost-free period:* 50 to 90 days

*Taxonomic class:* Loamy-skeletal, mixed, frigid Lithic Mollic Haploxeralfs

### ***Typical Pedon***

Blackspar very cobbly loam in an area of Vitale-Blackspar complex, 5 to 60 percent slopes, Butte County, Idaho, about 16 miles west and 8 miles south of Arco, Idaho; about 450 feet south and 800 feet east of the northwest corner of section 16, T. 2 N., R. 24 E.

A1—0 to 2 inches; grayish brown (10YR 5/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine

irregular pores; 25 percent gravel and 25 percent cobbles; neutral (pH 7.0); clear wavy boundary.

A2—2 to 6 inches; pale brown (10YR 6/3) very cobbly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; common very fine and fine tubular pores; 20 percent gravel and 35 percent cobbles; neutral (pH 7.0); gradual wavy boundary.

Bt—6 to 12 inches; pale brown (10YR 6/3) extremely cobbly loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common fine irregular pores; few faint clay films on faces of peds and in pores; 30 percent gravel and 40 percent cobbles; neutral (pH 7.0); abrupt wavy boundary.

R—12 inches; quartzitic sandstone.

### ***Range in Characteristics***

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Depth to argillic horizon:* 3 to 6 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—very cobbly loam

Content of rock fragments—35 to 55 percent gravel and cobbles

Reaction—neutral

*Bt horizon:*

Hue—7.5YR or 10YR

Value—5 or 6 dry, 4 or 5 moist

Chroma—3 or 4 dry or moist

Texture—very cobbly loam or extremely cobbly loam

Content of rock fragments—35 to 75 percent gravel and cobbles

Reaction—neutral

## ***Bluedome Series***

*Depth class:* Moderately deep to a duripan

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Alluvium derived from limestone

*Slope range:* 1 to 8 percent

*Elevation:* 5,500 to 7,200 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 35 to 43 degrees F

*Frost-free period:* 40 to 70 days

*Taxonomic class:* Coarse-loamy, carbonatic Duric Xeric Petrocrysids

### ***Typical Pedon***

Bluedome loam, 2 to 6 percent slopes, Butte County, Idaho, about 3 miles west of Hawley Mountain; about 50 feet south and 350 feet west of the northeast corner of section 19, T. 9 N., R. 26 E.

A—0 to 3 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak thin

platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine irregular pores; 10 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bk1—3 to 12 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 15 percent gravel; violently effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of gravel; strongly alkaline (pH 8.5); clear wavy boundary.

Bk2—12 to 20 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 20 percent gravel and 5 percent cobbles; violently effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); gradual wavy boundary.

Bk3—20 to 36 inches; very pale brown (10YR 8/3) gravelly loam, pale brown (10YR 6/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; common very fine, fine, and medium roots; common very fine tubular pores; 25 percent gravel and 5 percent cobbles; violently effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); abrupt wavy boundary.

2Bkqm—36 to 40 inches; very pale brown (10YR 8/2) indurated duripan; 65 percent gravel and 5 percent cobbles; violently effervescent; clear wavy boundary.

2Bkq—40 to 60 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; 55 percent gravel and 10 percent cobbles; violently effervescent; common calcium carbonate coatings 1 millimeter thick and silica coatings 2 to 3 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.8).

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 40 inches to a duripan

*Depth to calcic horizon:* 7 to 14 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—20 to 30 percent

Reaction—slightly alkaline to strongly alkaline

#### *Bk horizon:*

Hue—10YR

Value—5 to 8 dry, 4 to 6 moist

Chroma—3 or 4 dry or moist

Texture—loam or gravelly loam

Content of rock fragments—2 to 35 percent gravel and cobbles

Calcium carbonate equivalent—40 to 70 percent

Reaction—moderately alkaline or strongly alkaline

#### *2Bkqm horizon:*

Cementation—indurated or very strongly cemented in upper part, weakly cemented in lower part



*2Bkq horizon:*

Hue—10YR

Value—6 to 8 dry, 4 to 6 moist

Chroma—2 to 4 dry or moist

Texture—extremely gravelly sandy loam

Content of rock fragments—65 to 85 percent gravel and cobbles

Calcium carbonate equivalent—25 to 40 percent

Reaction—strongly alkaline

The Bluedome soils in this survey area are a taxadjunct to the Bluedome series because they have an indurated duripan. The Bluedome series has a strongly cemented duripan.

***Bockston Series****Depth class:* Very deep*Drainage class:* Well drained*Landscape:* Plains*Landform:* Stream terraces*Parent material:* Mixed alluvium*Slope range:* 0 to 4 percent*Elevation:* 5,400 to 5,600 feet*Mean annual precipitation:* 9 to 10 inches*Mean annual air temperature:* 41 to 43 degrees F*Frost-free period:* 65 to 80 days*Taxonomic class:* Fine-loamy, mixed, frigid Aridic Calcixerolls***Typical Pedon***

Bockston silt loam, 0 to 4 percent slopes, Butte County, Idaho, about 0.1 mile southwest of Darlington, Idaho; about 410 feet south and 400 feet west of the northeast corner of section 36, T. 6 N., R. 25 E.

Ap—0 to 6 inches; grayish brown (10YR 5/2) silt loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; few very fine and fine tubular pores; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bw—6 to 14 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; weak coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; few very fine and fine tubular pores; 5 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

Bk1—14 to 22 inches; light gray (10YR 7/2) silt loam, brown (10YR 5/3) moist; weak medium prismatic structure parting to strong medium subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; 10 percent gravel; violently effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

Bk2—22 to 34 inches; light gray (10YR 7/2) loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and nonplastic; few very fine and medium roots; common very fine and fine tubular pores; violently effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

Bk3—34 to 48 inches; light brownish gray (10YR 6/2) loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few very fine tubular pores; 5 percent gravel; violently effervescent; moderately alkaline (pH 7.9); clear wavy boundary.



Bk4—48 to 60 inches; light brownish gray (10YR 6/2) gravelly fine sandy loam, brown (10YR 4/3) moist; moderate thin platy structure; slightly hard, friable, nonsticky and nonplastic; few very fine roots; common very fine and fine tubular pores; 15 percent gravel; violently effervescent; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 10 to 14 inches

*Depth to calcic horizon:* 14 to 22 inches

*Ap horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Content of rock fragments—0 to 5 percent gravel

Calcium carbonate equivalent—5 to 15 percent

Reaction—slightly alkaline or moderately alkaline

*Bw horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—5 to 20 percent

Reaction—slightly alkaline or moderately alkaline

*Bk horizon:*

Hue—10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—2 or 3 dry or moist

Texture—loam, silt loam, or gravelly fine sandy loam

Content of rock fragments—0 to 30 percent gravel

Calcium carbonate equivalent—10 to 30 percent

Reaction—slightly alkaline or moderately alkaline

## ***Bondfarm Series***

*Depth class:* Shallow

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains, ridges

*Parent material:* Eolian deposits over basalt

*Slope range:* 2 to 8 percent

*Elevation:* 4,800 to 5,500 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 100 days

*Taxonomic class:* Loamy, mixed, frigid Lithic Xeric Haplocalcids

### ***Typical Pedon***

Bondfarm cobbly fine sandy loam in an area of Malm-Bondfarm-Matheson complex, 2 to 8 percent slopes, Butte County, Idaho, about 2.5 miles southeast of Butte

City, Idaho; about 1,300 feet south and 800 feet east of the northwest corner of section 13, T. 3 N., R. 27 E.

- A—0 to 2 inches; pale brown (10YR 6/3) cobbly fine sandy loam, dark brown (10YR 3/3) moist; common thin platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common fine irregular pores; 4 percent gravel, 10 percent cobbles, and 2 percent stones; slightly alkaline (pH 7.6); clear smooth boundary.
- Bk1—2 to 7 inches; pale brown (10YR 6/3) fine sandy loam, dark brown (10YR 3/3) moist; common fine subangular blocky structure; soft, friable, nonsticky and nonplastic; few fine and very fine roots; few very fine tubular pores; 2 percent gravel, 10 percent cobbles, and 2 percent stones; strongly effervescent; common calcium carbonate and few silica coatings 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); clear smooth boundary.
- Bk2—7 to 11 inches; pale brown (10YR 6/3) fine sandy loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, friable, nonsticky and nonplastic; few very fine, fine, and medium roots; few very fine tubular pores; 2 percent gravel, 10 percent cobbles, and 2 percent stones; strongly effervescent; common calcium carbonate and few silica coatings 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); abrupt smooth boundary.
- 2R—11 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Depth to calcic horizon:* 2 to 6 inches

#### *A horizon:*

Hue—10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—2 or 3 dry or moist

Texture—cobbly fine sandy loam

Content of rock fragments—15 to 20 percent gravel, cobbles, and stones

Calcium carbonate equivalent—0 to 5 percent

Reaction—slightly alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 3 to 5 moist

Chroma—2 or 3 dry or moist

Texture—fine sandy loam

Content of rock fragments—0 to 15 percent gravel, cobbles, and stones

Calcium carbonate equivalent—15 to 20 percent

Reaction—slightly alkaline or moderately alkaline

### ***Borah Series***

*Depth class:* Very deep

*Drainage class:* Poorly drained

*Landscape:* Plains

*Landform:* Flood plains, stream terraces

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Elevation:* 5,000 to 6,300 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 40 to 45 degrees F

*Frost-free period:* 50 to 90 days

*Taxonomic class:* Sandy-skeletal, mixed, frigid Typic Calciaquolls

### ***Typical Pedon***

Borah silt loam in an area of Mooretown-Borah complex, 0 to 2 percent slopes, Butte County, Idaho, about 1 mile southeast of Arco, Idaho; about 200 feet north and 1,200 feet east of the southwest corner of section 31, T. 4 N., R. 27 E.

A—0 to 3 inches; grayish brown (2.5Y 5/2) silt loam, very dark grayish brown (2.5Y 3/2) moist; weak fine granular structure; slightly hard, friable, nonsticky and slightly plastic; many fine, common medium, and few coarse roots; many very fine and fine irregular pores; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bkg—3 to 9 inches; grayish brown (2.5Y 5/2) loam, very dark grayish brown (2.5Y 3/2) moist; common fine prominent redoximorphic concentrations that are dark yellowish brown (10YR 4/6) moist; moderate medium subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; many fine, common medium, and few coarse roots; many very fine and fine irregular pores; 5 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

2Cg1—9 to 26 inches; light brownish gray (2.5Y 6/2) extremely gravelly loamy coarse sand, very dark grayish brown (2.5Y 3/2) moist; few medium prominent redoximorphic depletions that are yellowish brown (2.5Y 3/2) moist; few medium prominent redoximorphic concentrations that are yellowish brown (10YR 5/6) moist; single grain; loose, nonsticky and nonplastic; few fine and medium roots; many fine and medium irregular pores; 70 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

2Cg2—26 to 60 inches; light brownish gray (2.5Y 6/2) extremely gravelly coarse sand, very dark grayish brown (2.5Y 3/2) moist; common fine prominent redoximorphic concentrations that are dark yellowish brown (10YR 4/6) moist; single grain; loose, nonsticky and nonplastic; few fine roots; many fine and medium irregular pores; 80 percent gravel; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature (2Cg horizon):* 8 to 14 inches to strongly contrasting textural stratification

*Frequency of flooding:* Occasional

*Depth to water table:* 1 to 2 feet in April through August

*Thickness of mollic epipedon:* 10 to 14 inches

*Depth to calcic horizon:* 2 to 7 inches

#### *A horizon:*

Hue—10YR or 2.5Y

Value—4 or 5 dry, 2 or 3 moist

Chroma—1 or 2 dry or moist

Texture—loam or silt loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—1 to 10 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bkg horizon:*

Hue—2.5Y

Value—4 or 5 dry, 2 or 3 moist

Chroma—1 or 2 dry or moist

Texture—loam

Content of rock fragments—0 to 14 percent  
 Calcium carbonate equivalent—5 to 20 percent  
 Reaction—slightly alkaline or moderately alkaline

*2Cg horizon:*

Hue—2.5Y or 5Y  
 Value—4 to 6 dry, 2 to 4 moist  
 Chroma—0 to 2 dry or moist  
 Texture—extremely gravelly loamy coarse sand or extremely gravelly coarse sand  
 Content of rock fragments—60 to 80 percent gravel  
 Calcium carbonate equivalent—0 to 10 percent  
 Reaction—slightly alkaline or moderately alkaline

## ***Borco Series***

*Depth class:* Very deep  
*Drainage class:* Somewhat excessively drained  
*Landscape:* Plains  
*Landform:* Flood plains, stream terraces  
*Parent material:* Mixed alluvium  
*Slope range:* 0 to 2 percent  
*Elevation:* 5,000 to 6,100 feet  
*Mean annual precipitation:* 9 to 11 inches  
*Mean annual air temperature:* 40 to 42 degrees F  
*Frost-free period:* 70 to 90 days

*Taxonomic class:* Sandy-skeletal, mixed, frigid Torrifluventic Haploxerolls

### ***Typical Pedon***

Borco gravelly loam in an area of Mooretown-Borco complex, 0 to 2 percent slopes, Butte County, Idaho, about 1 mile northwest of Arco, Idaho; about 1,400 feet north and 2,080 feet east of the southwest corner of section 26, T. 4 N., R. 26 E.

- A—0 to 2 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, friable, nonsticky and slightly plastic; many very fine and fine and few medium roots; many very fine and fine irregular pores; 30 percent gravel; strongly effervescent; disseminated calcium carbonate; slightly alkaline (pH 7.6); abrupt smooth boundary.
- Bk1—2 to 5 inches; brown (10YR 5/3) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; many very fine and fine and few medium roots; many very fine and fine irregular pores; 30 percent gravel; strongly effervescent; disseminated calcium carbonate; few fine rounded soft calcium carbonate masses; few calcium carbonate coatings on underside of gravel; moderately alkaline (pH 7.9); clear wavy boundary.
- Bk2—5 to 10 inches; grayish brown (10YR 5/2) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, firm, nonsticky and slightly plastic; many very fine and fine and few medium roots; many very fine and fine irregular pores; 30 percent gravel; slightly effervescent; disseminated calcium carbonate; few fine rounded soft calcium carbonate masses; few calcium carbonate coatings on underside of gravel; moderately alkaline (pH 7.9); clear wavy boundary.
- 2C1—10 to 20 inches; multicolored, dominantly grayish brown (10YR 5/2) extremely

gravelly sand, very dark grayish brown (10YR 3/2) moist; few fine distinct redoximorphic concentrations that are yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; common very fine and fine roots; many fine and medium irregular pores; 65 percent gravel; moderately alkaline (pH 7.9); clear wavy boundary.

2C2—20 to 26 inches; multicolored, dominantly light brownish gray (10YR 6/2) extremely gravelly sand, dark grayish brown (10YR 4/2) moist; common medium prominent redoximorphic concentrations that are yellowish brown (10YR 5/8) moist and are on coarse fragments; single grain; loose, nonsticky and nonplastic; common very fine and fine and few medium roots; many very fine and fine irregular pores; 80 percent gravel and 1 percent cobbles; moderately alkaline (pH 7.9); clear wavy boundary.

2C3—26 to 60 inches; multicolored, dominantly grayish brown (10YR 5/2) extremely gravelly loamy coarse sand, dark brown (10YR 3/3) moist; common medium prominent redoximorphic concentrations that are yellowish brown (10YR 5/8) moist and are on coarse fragments; single grain; loose, nonsticky and nonplastic; common very fine and fine and few medium roots; many fine and medium irregular pores; 80 percent gravel; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature (2C horizon):* 10 to 20 inches to strongly contrasting textural stratification

*Thickness of mollic epipedon:* 10 to 16 inches

*Depth to secondary carbonates:* 2 to 7 inches

*Depth to relict redoximorphic concentrations:* 8 to 20 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—1 or 2 dry or moist

Texture—gravelly loam

Content of rock fragments—25 to 35 percent gravel

Calcium carbonate equivalent—0 to 10 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam, gravelly sandy loam, very gravelly loam, or very gravelly sandy loam

Content of rock fragments—25 to 45 percent gravel

Calcium carbonate equivalent—3 to 10 percent

Reaction—slightly alkaline or moderately alkaline

#### *2C horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—extremely gravelly sand or extremely gravelly loamy coarse sand

Content of rock fragments—60 to 85 percent gravel

Calcium carbonate equivalent—0 to 5 percent

Reaction—slightly alkaline or moderately alkaline

## ***Breitenbach Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Mixed alluvium

*Slope range:* 1 to 4 percent

*Elevation:* 5,200 to 6,000 feet

*Mean annual precipitation:* 10 to 13 inches

*Mean annual air temperature:* 40 to 45 degrees F

*Frost-free period:* 70 to 100 days

*Taxonomic class:* Loamy-skeletal, mixed, frigid Calcic Haploxerolls

### ***Typical Pedon***

Breitenbach loam in an area of Stan-Breitenbach complex, 1 to 4 percent slopes, Butte County, Idaho, about 1.5 miles southeast of Arco, Idaho; about 600 feet north and 1,600 feet west of the southeast corner of section 5, T. 3 N., R. 27 E.

A1—0 to 3 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak thin platy structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 5 percent gravel; slightly alkaline (pH 7.6); clear smooth boundary.

A2—3 to 9 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate thin platy structure; slightly hard, friable, nonsticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 5 percent gravel; slightly alkaline (pH 7.6); clear smooth boundary.

Bw—9 to 17 inches; brown (10YR 5/3) gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak coarse subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 15 percent gravel; moderately alkaline (pH 7.9); clear wavy boundary.

2Bk—17 to 30 inches; pale brown (10YR 6/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; moderate medium platy structure; hard, firm, nonsticky and nonplastic; common very fine, fine, and medium roots; common very fine tubular pores; 35 percent gravel and 5 percent cobbles; common calcium carbonate coatings on underside of rock fragments; slightly effervescent; moderately alkaline (pH 7.9); gradual wavy boundary.

2Bkq1—30 to 34 inches; light gray (10YR 7/2) extremely gravelly sandy loam, brown (10YR 5/3) moist; weak coarse subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few very fine roots; common very fine tubular pores; 65 percent gravel and 5 percent cobbles; common calcium carbonate and silica coatings 1 to 2 millimeters thick on underside of rock fragments; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

3Bkq2—34 to 60 inches; pale brown (10YR 6/3) extremely gravelly loamy sand, dark brown (10YR 3/3) moist; single grain; loose, nonsticky and nonplastic; common very fine and few fine roots; 70 percent gravel and 10 percent cobbles; common calcium carbonate and silica coatings 2 to 3 millimeters thick on underside of rock fragments; slightly effervescent; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature (3Bkq horizon):* 30 to 60 inches to strongly contrasting textural stratification

*Thickness of mollic epipedon:* 9 to 14 inches

*Depth to calcic horizon:* 12 to 20 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—loam, gravelly loam, or gravelly loamy sand

Content of rock fragments—0 to 30 percent gravel and cobbles

Reaction—slightly alkaline

*Bw horizon:*

Hue—10YR

Value—4 or 5 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—loam, sandy loam, gravelly loam, or gravelly sandy loam

Content of rock fragments—10 to 34 percent gravel

Reaction—slightly alkaline or moderately alkaline

*2Bk, 2Bkq, and 3Bkq horizons:*

Hue—10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly loam, very gravelly sandy loam, extremely gravelly loam, extremely gravelly sandy loam, extremely gravelly loamy sand, or extremely gravelly loamy coarse sand

Content of rock fragments—35 to 80 percent gravel and cobbles

Calcium carbonate equivalent—5 to 15 percent

Reaction—slightly alkaline or moderately alkaline

## ***Buist Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Mixed alluvium and loess

*Slope range:* 2 to 12 percent

*Elevation:* 6,000 to 6,600 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 42 to 43 degrees F

*Frost-free period:* 70 to 80 days

*Taxonomic class:* Loamy-skeletal, mixed, frigid Calcic Haploxerolls

### ***Typical Pedon***

Buist gravelly loam, 2 to 12 percent slopes, Butte County, Idaho, about 2.5 miles southwest of Bell Mountain; about 500 feet south and 200 feet west of the northeast corner of section 16, T. 10 N., R. 27 E.

A1—0 to 5 inches; grayish brown (10YR 5/2) gravelly loam, dark brown (10YR 3/3) moist; moderate fine granular structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine roots; common fine irregular pores; 30 percent gravel and 1 percent cobbles; neutral (pH 7.2); clear smooth boundary.



- A2—5 to 14 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 35 percent gravel and 5 percent cobbles; slightly alkaline (pH 7.5); gradual wavy boundary.
- BA—14 to 20 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; 35 percent gravel and 10 percent cobbles; slightly effervescent; few calcium carbonate coatings 1 millimeter thick on underside of rock fragments; slightly alkaline (pH 7.5); clear wavy boundary.
- Bk1—20 to 33 inches; light brownish gray (10YR 6/2) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak moderate subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine, fine, and medium roots; few very fine tubular pores; 45 percent gravel and 5 percent cobbles; strongly effervescent; common calcium carbonate and silica coatings 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2); gradual wavy boundary.
- Bk2—33 to 60 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine, fine, and medium roots; few very fine tubular pores; 50 percent gravel and 15 percent cobbles; violently effervescent; common calcium carbonate and silica coatings 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 8 to 19 inches

*Depth to secondary carbonates:* 8 to 19 inches

*Depth to calcic horizon:* 15 to 25 inches

#### *A1 horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 35 percent gravel and cobbles

Reaction—neutral or slightly alkaline

#### *A2 and BA horizons:*

Hue—10YR

Value—4 to 6 dry, 3 to 6 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly loam

Content of rock fragments—35 to 45 percent gravel and cobbles

Reaction—neutral to moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—5 or 6 dry, 4 or 5 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly loam or extremely gravelly sandy loam

Content of rock fragments—35 to 75 percent gravel and cobbles

Calcium carbonate equivalent—10 to 40 percent

Reaction—slightly alkaline to strongly alkaline



## ***Bunting Series***

*Depth class:* Very deep

*Drainage class:* Somewhat excessively drained

*Landscape:* Plains

*Landform:* Stream terraces

*Parent material:* Alluvium derived from quartzite

*Slope range:* 0 to 2 percent

*Elevation:* 6,000 to 6,200 feet

*Mean annual precipitation:* 13 to 15 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 60 to 70 days

*Taxonomic class:* Sandy-skeletal, mixed, frigid Calcic Haploxerolls

### ***Typical Pedon***

Bunting gravelly loam, 0 to 2 percent slopes, Butte County, Idaho, about 8 miles north of Squaw Springs; about 1,300 feet south and 1,200 feet west of the northeast corner of section 21, T. 11 N., R. 26 E.

- A1—0 to 3 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine irregular pores; 15 percent gravel and 3 percent cobbles; neutral (pH 7.2); clear smooth boundary.
- A2—3 to 10 inches; yellowish brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 15 percent gravel and 5 percent cobbles; neutral (pH 7.2); gradual smooth boundary.
- Bw1—10 to 18 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate coarse subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 25 percent gravel and 5 percent cobbles; neutral (pH 7.2); clear wavy boundary.
- Bw2—18 to 22 inches; brown (10YR 5/3) very gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine tubular pores; 35 percent gravel and 5 percent cobbles; slightly alkaline (pH 7.6); gradual wavy boundary.
- 2Bk—22 to 42 inches; brown (10YR 4/3) extremely gravelly loamy coarse sand, dark brown (10YR 3/3) moist; single grain; loose, nonsticky and nonplastic; common very fine and fine roots; 50 percent gravel and 15 percent cobbles; few calcium carbonate coatings 1 millimeter thick on underside of rock fragments; slightly alkaline (pH 7.6); gradual wavy boundary.
- 2Bkq—42 to 60 inches; brown (10YR 4/3) very cobbly coarse sand, dark brown (10YR 3/3) moist; single grain; loose, nonsticky and nonplastic; common very fine and fine roots; 25 percent gravel, 20 percent cobbles, and 5 percent stones; common calcium carbonate and very few silica coatings 1 millimeter thick on underside of rock fragments; slightly alkaline (pH 7.6).

### ***Range in Characteristics***

*Depth to restrictive feature (2Bk horizon):* 14 to 24 inches to strongly contrasting textural stratification

*Thickness of mollic epipedon:* 10 to 20 inches

*Depth to secondary carbonates:* 14 to 24 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 25 percent gravel and cobbles

Reaction—neutral or slightly alkaline

*Bw1 horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—3 or 4 dry or moist

Texture—gravelly loam or very gravelly loam

Content of rock fragments—15 to 40 percent gravel and cobbles

Calcium carbonate equivalent—0 to 2 percent

Reaction—neutral or slightly alkaline

*Bw2 horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly sandy loam, extremely gravelly loam, or extremely gravelly sandy loam

Content of rock fragments—40 to 65 percent gravel and cobbles

Calcium carbonate equivalent—0 to 2 percent

Reaction—slightly alkaline

*2Bk and 2Bkq horizons:*

Hue—10YR

Value—4 to 7 dry, 3 or 4 moist

Chroma—2 to 4 dry or moist

Texture—extremely gravelly loamy coarse sand or very cobbly coarse sand

Content of rock fragments—40 to 75 percent gravel, cobbles, and stones

Calcium carbonate equivalent—0 to 2 percent

Reaction—slightly alkaline

## ***Calcids***

*Depth class:* Moderately deep to very deep

*Drainage class:* Well drained

*Landscape:* Mountains

*Landform:* Mountain slopes

*Parent material:* Colluvium and slope alluvium

*Slope range:* 30 to 80 percent

*Elevation:* 5,200 to 7,500 feet

*Mean annual precipitation:* 11 to 13 inches

*Mean annual air temperature:* 36 to 43 degrees F

*Frost-free period:* 50 to 75 days

*Taxonomic class:* Calcids

### ***Typical Pedon***

Calcids very gravelly loam in an area of Calcids-Rubble land-Rock outcrop complex,

30 to 80 percent slopes, Butte County, Idaho, about 11 miles west and 4 miles south of Atomic City, Idaho; about 1,450 feet north and 3,000 feet east of the southwest corner of section 23, T. 1 N., R. 29 E.

- A—0 to 4 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; weak thin platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine tubular pores; 20 percent gravel, 15 percent cobbles, and 1 percent stones; neutral (pH 7.2); clear smooth boundary.
- Bw—4 to 12 inches; pinkish gray (7.5YR 6/2) very gravelly loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine and common medium roots; common fine tubular pores; 35 percent gravel and 10 percent cobbles; neutral (pH 7.2); clear wavy boundary.
- Bk—12 to 25 inches; pinkish gray (5YR 6/2) extremely gravelly loam, reddish brown (5YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine and common medium roots; common fine tubular pores; 45 percent gravel and 20 percent cobbles; few calcium carbonate coatings on underside of rock fragments, strongly effervescent; moderately alkaline (pH 7.9); gradual wavy boundary.
- C1—25 to 35 inches; light reddish brown (5YR 6/3) extremely gravelly coarse sandy loam, reddish brown (5YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few very fine, fine, and medium roots; common fine tubular pores; 55 percent gravel and 20 percent cobbles; slightly alkaline (pH 7.4); gradual wavy boundary.
- C2—35 to 60 inches; light reddish brown (5YR 6/3) extremely gravelly coarse sandy loam, reddish brown (5YR 5/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine, fine, and medium roots; common very fine tubular pores; 50 percent gravel and 25 percent cobbles; slightly alkaline (pH 7.4).

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 80 inches to lithic bedrock

*Depth to calcic horizon:* 10 to 15 inches

#### *A horizon:*

Hue—5YR, 7.5YR, or 10YR

Value—4 to 6 dry, 2 to 4 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly loam

Content of rock fragments—35 to 55 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

#### *Bw and Bk horizons:*

Hue—5YR, 7.5YR, or 10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly loam or extremely gravelly loam

Content of rock fragments—45 to 80 percent gravel and cobbles

Calcium carbonate equivalent—0 to 15 percent

Reaction—neutral to moderately alkaline

#### *C horizon:*

Hue—5YR, 7.5YR, or 10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—3 or 4 dry or moist

Texture—extremely gravelly coarse sandy loam

Content of rock fragments—60 to 80 percent gravel and cobbles  
 Calcium carbonate equivalent—0 to 15 percent  
 Reaction—slightly acid to moderately alkaline

## ***Cinderhurst Series***

*Depth class:* Very shallow

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Eolian deposits and tephra over basalt

*Slope range:* 2 to 15 percent

*Elevation:* 4,800 to 6,000 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 60 to 90 days

*Taxonomic class:* Medial-skeletal, frigid Lithic Vitrixerands

### ***Typical Pedon***

Cinderhurst extremely cobbly silt loam in an area of Lava flows-Cinderhurst complex, 2 to 15 percent slopes, Blaine County, Idaho; about 1,800 feet north and 50 feet west of the southeast corner of section 19, T. 1 N., R. 24 E.

A—0 to 3 inches; brown (10YR 4/3) extremely cobbly silt loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine irregular pores; 15 percent gravel and 50 percent cobbles; neutral (pH 6.7); clear smooth boundary.

Bw—3 to 8 inches; yellowish brown (10YR 5/4) very cobbly silt loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine, medium, and coarse roots; many very fine tubular pores; 5 percent gravel and 30 percent cobbles; neutral (pH 6.7); abrupt irregular boundary.

2R—8 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 1 to 10 inches to lithic bedrock

*Content of glass:* 5 to 30 percent

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 3 or 4 moist

Chroma—2 to 4 dry or moist

Texture—extremely cobbly silt loam

Content of rock fragments—60 to 80 percent gravel and cobbles

Reaction—slightly acid or neutral

*Bw horizon:*

Hue—7.5YR or 10YR

Value—4 to 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—very cobbly silt loam

Content of rock fragments—35 to 55 percent gravel and cobbles

Reaction—slightly acid or neutral

## **Coalkiln Series**

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Mountains

*Landform:* Mountain slopes

*Parent material:* Colluvium and slope alluvium derived from limestone

*Slope range:* 25 to 60 percent

*Elevation:* 7,000 to 9,000 feet

*Mean annual precipitation:* 13 to 26 inches

*Mean annual air temperature:* 34 to 40 degrees F

*Frost-free period:* 30 to 50 days

*Taxonomic class:* Loamy-skeletal, carbonatic Calcic Pachic Cryoborolls

### **Typical Pedon**

Coalkiln very gravelly loam in an area of Zeale-Coalkiln-Jimbee complex, 25 to 60 percent slopes, Butte County, Idaho, about 7 miles northeast of Howe, Idaho; about 1,300 feet south and 1,450 feet west of the northeast corner of section 5, T. 6 N., R. 30 E.

Oi—0 to 1 inch; slightly decomposed plant material.

A1—1 to 5 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; 25 percent gravel, 10 percent cobbles, and 3 percent stones; slightly effervescent; neutral (pH 7.2); clear smooth boundary.

A2—5 to 9 inches; grayish brown (10YR 5/2) gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 25 percent gravel, 5 percent cobbles, and 2 percent stones; slightly effervescent; few calcium carbonate coatings 1 millimeter thick on underside of rock fragments; neutral (pH 7.2); clear wavy boundary.

Ak—9 to 17 inches; grayish brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 35 percent gravel, 10 percent cobbles, and 1 percent stones; strongly effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of rock fragments; slightly alkaline (pH 7.6); clear wavy boundary.

Bk1—17 to 25 inches; pale brown (10YR 6/3) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 35 percent gravel and 10 percent cobbles; strongly effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); clear wavy boundary.

Bk2—25 to 41 inches; very pale brown (10YR 7/3) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 35 percent gravel and 10 percent cobbles; violently effervescent; common calcium carbonate coatings 1 to 2 millimeters

thick on underside of rock fragments; moderately alkaline (pH 7.9); clear wavy boundary.

Bk3—41 to 60 inches; light yellowish brown (10YR 6/4) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, nonsticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 40 percent gravel, 20 percent cobbles, and 1 percent stones; violently effervescent; common calcium carbonate coatings 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature (Ak horizon):* 2 to 15 inches to high content of carbonates

*Thickness of mollic epipedon:* 16 to 30 inches

*Depth to calcic horizon:* 9 to 30 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly loam and gravelly loam

Content of rock fragments—15 to 55 percent gravel, cobbles, and stones

Calcium carbonate equivalent—1 to 10 percent

Reaction—neutral or slightly alkaline

#### *Ak horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly loam

Content of rock fragments—35 to 50 percent gravel, cobbles, and stones

Calcium carbonate equivalent—15 to 40 percent

Reaction—neutral or slightly alkaline

#### *Bk horizon:*

Hue—10YR

Value—5 to 7 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly loam or extremely gravelly loam

Content of rock fragments—35 to 85 percent gravel, cobbles, and stones

Calcium carbonate equivalent—20 to 50 percent

Reaction—slightly alkaline or moderately alkaline

## ***Coffee Series***

*Depth class:* Deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Mixed alluvium over basalt

*Slope range:* 0 to 20 percent

*Elevation:* 4,500 to 5,600 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 110 days

*Taxonomic class:* Coarse-loamy, mixed, frigid Sodic Xeric Haplocalcids



### ***Typical Pedon***

Coffee silt loam in an area of Coffee-Nargon-Atom complex, 2 to 12 percent slopes, Bingham County, Idaho, about 11 miles northwest of Springfield, Idaho; about 950 feet south and 1,500 feet east of the southwest corner of section 8, T. 3 S., R. 30 E.

- A1—0 to 3 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate very thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine and fine vesicular pores; 2 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.
- A2—3 to 7 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate very thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, and medium roots; few very fine and fine tubular pores; 1 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.
- Bk—7 to 16 inches; very pale brown (10YR 7/3) silt loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine and fine tubular pores; 10 percent hard  $\frac{3}{8}$ - to  $\frac{3}{4}$ -inch nodules; cicada krotovinas; 1 percent gravel; violently effervescent; common calcium carbonate and few silica coatings 1 millimeter thick on underside of gravel; strongly alkaline (pH 8.5); clear smooth boundary.
- Bkq1—16 to 25 inches; very pale brown (10YR 7/3) silt loam, brown (10YR 4/3) moist; moderate medium angular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine and fine tubular pores; 15 percent hard  $\frac{3}{8}$ - to  $\frac{3}{4}$ -inch nodules; cicada krotovinas; 1 percent gravel, 2 percent cobbles, and 1 percent stones; violently effervescent; common calcium carbonate and few silica coatings 1 millimeter thick on underside of rock fragments; strongly alkaline (pH 9.0); clear smooth boundary.
- Bkq2—25 to 48 inches; very pale brown (10YR 8/3) silty clay loam, pale brown (10YR 6/3) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; few very fine and fine roots; common very fine tubular pores; 1 percent gravel, 5 percent cobbles, and 2 percent stones; strongly effervescent; common calcium carbonate and few silica coatings 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.6); abrupt smooth boundary.
- 2R—48 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Depth to calcic horizon and high content of sodium:* 6 to 12 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 to 4 dry or moist

Texture—silt loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—5 to 10 percent

Sodium adsorption ratio—0 to 5

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist



Chroma—2 or 3 dry or moist  
 Texture—silt loam  
 Content of rock fragments—0 to 10 percent gravel, cobbles, and stones  
 Calcium carbonate equivalent—15 to 25 percent  
 Sodium adsorption ratio—13 to 35  
 Reaction—moderately alkaline or strongly alkaline

*Bkq horizon:*

Hue—10YR  
 Value—6 to 8 dry, 4 to 6 moist  
 Chroma—2 or 3 dry or moist  
 Texture—silt loam or silty clay loam  
 Content of rock fragments—0 to 14 percent gravel, cobbles, and stones  
 Calcium carbonate equivalent—15 to 30 percent  
 Sodium adsorption ratio—13 to 35  
 Reaction—moderately alkaline or strongly alkaline

## ***Cronks Series***

*Depth class:* Very deep  
*Drainage class:* Well drained  
*Landscape:* Foothills, mountains  
*Landform:* Hillslopes, mountain slopes  
*Parent material:* Colluvium  
*Slope range:* 25 to 40 percent  
*Elevation:* 6,000 to 7,500 feet  
*Mean annual precipitation:* 11 to 13 inches  
*Mean annual air temperature:* 40 to 43 degrees F  
*Frost-free period:* 65 to 80 days  
*Taxonomic class:* Clayey-skeletal, montmorillonitic, frigid Aridic Calcic Argixerolls

### ***Typical Pedon***

Cronks cobbly loam in an area of Cronks-Dacont complex, 25 to 60 percent slopes, Butte County, Idaho, about 7 miles west of Moore, Idaho; about 1,200 feet north and 850 feet east of the southwest corner of section 11, T. 4 N., R. 24 E.

- A—0 to 7 inches; grayish brown (10YR 5/2) cobbly loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; 10 percent gravel and 10 percent cobbles; neutral (pH 6.6); clear smooth boundary.
- Bt—7 to 14 inches; brown (10YR 5/3) very cobbly clay loam, dark brown (10YR 3/3) moist; moderate fine prismatic structure parting to strong fine subangular blocky; hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; common very fine irregular pores; common distinct clay films on faces of peds and in pores; 20 percent gravel and 20 percent cobbles; neutral (pH 7.2); clear wavy boundary.
- Btk—14 to 19 inches; pale brown (10YR 6/3) very cobbly clay loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine roots; few very fine tubular pores; common faint clay films on faces of peds and in pores; 20 percent gravel and 20 percent cobbles; slightly effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of rock fragments; neutral (pH 7.2); clear wavy boundary.

- Bk—19 to 29 inches; pale brown (10YR 6/3) very cobbly clay loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; few very fine roots; few very fine tubular pores; 15 percent gravel and 25 percent cobbles; strongly effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.
- C—29 to 60 inches; pale brown (10YR 6/3) very cobbly clay loam, brown (10YR 4/3) moist; weak and moderate fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; common very fine tubular pores; 10 percent gravel, 25 percent cobbles, and 1 percent stones; slightly effervescent; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 8 to 14 inches

*Depth to argillic horizon:* 3 to 12 inches

*Depth to calcic horizon:* 14 to 36 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—cobbly loam

Content of rock fragments—15 to 25 percent gravel and cobbles

Reaction—slightly acid or neutral

*Bt and Btk horizons:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—very cobbly clay loam

Content of rock fragments—35 to 50 percent gravel and cobbles

Calcium carbonate equivalent—0 to 5 percent

Reaction—neutral or slightly alkaline

*Bk and C horizons:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—very cobbly clay loam

Content of rock fragments—35 to 50 percent gravel and cobbles

Calcium carbonate equivalent—15 to 25 percent in the Bk horizon and 0 to 10 percent in the C horizon

Reaction—slightly alkaline or moderately alkaline

## ***Crooked Creek Series***

*Depth class:* Very deep

*Drainage class:* Poorly drained

*Landscape:* Basins

*Landform:* Basin floors

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Elevation:* 4,800 to 4,900 feet

*Mean annual precipitation:* 8 to 10 inches

*Mean annual air temperature:* 44 to 46 degrees F

*Frost-free period:* 80 to 100 days

*Taxonomic class:* Fine, montmorillonitic, calcareous, frigid Cumulic Endoaquolls

### ***Typical Pedon***

Crooked Creek silt loam, 0 to 2 percent slopes, Butte County, Idaho, about 1.5 miles southeast of Howe, Idaho; about 2,000 feet north and 500 feet west of the southeast corner of section 3, T. 5 N., R. 29 E.

A1—0 to 6 inches; grayish brown (2.5Y 5/2) silt loam, very dark grayish brown (2.5Y 3/2) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; strongly effervescent; slightly alkaline (pH 7.6); clear smooth boundary.

A2—6 to 11 inches; grayish brown (2.5Y 5/2) silt loam, very dark grayish brown (2.5Y 3/2) moist; weak medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine tubular pores; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

A3—11 to 20 inches; grayish brown (2.5Y 5/2) silt loam, very dark grayish brown (2.5Y 3/2) moist; common fine distinct redoximorphic concentrations that are light olive brown (2.5Y 5/6) moist; common medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine and fine tubular pores; strongly effervescent; moderately alkaline (pH 7.9); abrupt smooth boundary.

A4—20 to 41 inches; dark grayish brown (2.5Y 4/2) silty clay, very dark grayish brown (2.5Y 3/2) moist; strong very coarse prismatic structure; very hard, firm, very sticky and slightly plastic; many very fine and few fine roots; common very fine tubular pores; cracks 20 inches long, 1/4 to 1/2 inch wide, and 4 to 8 inches apart; few fine calcium carbonate threads; slightly effervescent; neutral (pH 7.2); clear smooth boundary.

A5—41 to 50 inches; grayish brown (2.5Y 5/2) silty clay, very dark grayish brown (2.5Y 3/2) moist; common fine distinct redoximorphic depletions that are black (2.5Y 2/0) and olive brown (2.5Y 4/4) moist; strong very coarse prismatic structure; very hard, firm, very sticky and very plastic; few fine roots; common fine and very fine tubular pores; common fine calcium carbonate threads; slightly effervescent; neutral (pH 7.2); abrupt smooth boundary.

C—50 to 60 inches; grayish brown (2.5Y 5/2) loam, very dark grayish brown (2.5Y 3/2) moist; common fine distinct redoximorphic depletions that are yellowish brown (10YR 5/6) moist; weak medium prismatic structure; very hard, friable, slightly sticky and slightly plastic; few very fine and common fine roots; few medium tubular pores; slightly effervescent; neutral (pH 7.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to water table:* 3 to 6 feet in February through April

*Thickness of mollic epipedon:* More than 24 inches

*A1, A2, and A3 horizons:*

Hue—10YR or 2.5Y

Value—3 to 5 dry, 1 to 3 moist

Chroma—1 or 2 dry or moist

Texture—silt loam

Calcium carbonate equivalent—5 to 15 percent

Reaction—slightly alkaline or moderately alkaline

*A4 and A5 horizons:*

Hue—10YR or 2.5Y

Value—3 to 5 dry, 1 to 3 moist

Chroma—1 or 2 dry or moist

Texture—silty clay

Calcium carbonate equivalent—5 to 10 percent

Reaction—neutral or slightly alkaline

*C horizon:*

Hue—10YR or 2.5Y

Value—3 to 6 dry, 3 to 5 moist

Chroma—1 to 3 dry or moist

Texture—loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—5 to 10 percent

Reaction—neutral or slightly alkaline

The Crooked Creek soils in this survey area are a taxadjunct to the Crooked Creek series because they are calcareous throughout. The Crooked Creek series is noncalcareous.

***Cryoborolls****Depth class:* Moderately deep to very deep*Drainage class:* Well drained*Landscape:* Foothills, mountains*Landform:* Hillslopes, mountain slopes*Parent material:* Colluvium*Slope range:* 30 to 80 percent*Elevation:* 5,200 to 9,900 feet*Mean annual precipitation:* 13 to 30 inches*Mean annual air temperature:* 34 to 39 degrees F*Frost-free period:* 10 to 60 days*Taxonomic class:* Cryoborolls***Typical Pedon***

Cryoborolls very cobbly loam in an area of Cryoborolls-Rubble land-Rock outcrop complex, 30 to 80 percent slopes, Butte County, Idaho, about 12 miles west and 4 miles south of Atomic City, Idaho; about 2,200 feet north and 1,800 feet west of the southeast corner of section 22, T. 1 N., R. 29 E.

A—0 to 4 inches; grayish brown (10YR 5/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine tubular pores; 15 percent gravel, 20 percent cobbles, and 3 percent stones; neutral (pH 7.2); clear smooth boundary.

Bw1—4 to 24 inches; brown (10YR 5/3) extremely cobbly loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine, fine, and medium roots; many very fine tubular pores; 35 percent gravel, 25 percent cobbles, and 2 percent stones; neutral (pH 7.2); gradual wavy boundary.

Bw2—24 to 41 inches; pale brown (10YR 6/3) extremely cobbly loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine, fine, and medium roots; many very

fine tubular pores; 35 percent gravel, 30 percent cobbles, and 2 percent stones; neutral; (pH 7.2) gradual wavy boundary.

Bw3—41 to 54 inches; pale brown (10YR 6/3) extremely cobbly loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine tubular pores; 30 percent gravel, 30 percent cobbles, and 3 percent stones; neutral (pH 7.2); gradual wavy boundary.

C—54 to 60 inches; pale brown (10YR 6/3) extremely cobbly loamy coarse sand, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine tubular pores; 30 percent gravel, 40 percent cobbles, and 5 percent stones; slightly alkaline (pH 7.5).

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 80 inches to lithic bedrock

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—very cobbly loam

Content of rock fragments—35 to 50 percent gravel, cobbles, and stones

Calcium carbonate equivalent—0 to 20 percent

Reaction—neutral or slightly alkaline

#### *Bw horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—extremely cobbly loam

Content of rock fragments—60 to 85 percent gravel, cobbles, and stones

Calcium carbonate equivalent—0 to 40 percent

Reaction—neutral or slightly alkaline

#### *C horizon:*

Hue—10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—3 to 5 dry or moist

Texture—extremely cobbly loamy coarse sand

Content of rock fragments—60 to 85 percent gravel, cobbles, and stones

Calcium carbonate equivalent—0 to 40 percent

Reaction—neutral to moderately alkaline

## ***Dacont Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Foothills, mountains

*Landform:* Hillslopes, mountain slopes

*Parent material:* Slope alluvium and colluvium derived from rhyolite

*Slope range:* 5 to 60 percent

*Elevation:* 5,500 to 7,500 feet

*Mean annual precipitation:* 11 to 14 inches

*Mean annual air temperature:* 40 to 43 degrees F

*Frost-free period:* 60 to 80 days

*Taxonomic class:* Loamy-skeletal, mixed, frigid Aridic Calcic Argixerolls

***Typical Pedon***

Dacont gravelly loam in an area of Nurkey-Dacont association, 5 to 35 percent slopes, Butte County, Idaho, about 3.5 miles northwest of Hawley Mountain; about 2,300 feet north and 2,300 feet east of the southwest corner of section 30, T. 10 N., R. 26 E.

- A—0 to 2 inches; grayish brown (10YR 5/2) gravelly loam, dark brown (10YR 3/3) moist; weak thick platy structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; 15 percent gravel, 1 percent cobbles, and 1 percent stones; slightly effervescent; neutral (pH 7.2); clear smooth boundary.
- Bt—2 to 8 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common fine tubular pores; few faint clay films; 35 percent gravel, 1 percent cobbles, and 1 percent stones; moderately alkaline (pH 7.9); clear wavy boundary.
- Bk1—8 to 12 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common fine tubular pores; 35 percent gravel, 1 percent cobbles, and 1 percent stones; strongly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.
- Bk2—12 to 24 inches; very pale brown (10YR 7/3) very gravelly sandy loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; common very fine and few fine and medium roots; common fine tubular pores; 35 percent gravel, 5 percent cobbles, and 1 percent stones; strongly effervescent; moderately alkaline (pH 7.9); gradual wavy boundary.
- Bk3—24 to 35 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; common very fine and fine roots; common fine tubular pores; 45 percent gravel, 1 percent cobbles, and 1 percent stones; violently effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2); gradual wavy boundary.
- Bkq—35 to 60 inches; pale brown (10YR 6/3) very gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine roots; few fine tubular pores; 40 percent gravel, 1 percent cobbles, and 1 percent stones; moderately effervescent; common calcium carbonate and few silica coatings 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2).

***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 8 to 12 inches

*Depth to argillic horizon:* 1 to 4 inches

*Depth to calcic horizon:* 8 to 30 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 35 percent gravel, cobbles, and stones



Calcium carbonate equivalent—0 to 2 percent

Reaction—neutral or slightly alkaline

*Bt horizon:*

Hue—10YR

Value—4 or 5 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly loam

Content of rock fragments—35 to 45 percent gravel, cobbles, and stones

Calcium carbonate equivalent—0 to 2 percent

Reaction—slightly alkaline or moderately alkaline

*Bk and Bkq horizons:*

Hue—10YR

Value—6 to 8 dry, 3 to 7 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly loam, very gravelly sandy loam, or very cobbly loam

Content of rock fragments—35 to 50 percent gravel, cobbles, and stones

Calcium carbonate equivalent—15 to 35 percent

Reaction—slightly alkaline or moderately alkaline

## ***Darlington Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Mixed alluvium

*Slope range:* 1 to 4 percent

*Elevation:* 5,000 to 5,600 feet

*Mean annual precipitation:* 11 to 13 inches

*Mean annual air temperature:* 38 to 42 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Loamy-skeletal, mixed, frigid Calcic Haploxerolls

### ***Typical Pedon***

Darlington very gravelly loam in an area of Darlington-Lesbut complex, 1 to 4 percent slopes, Butte County, Idaho, about 1.5 miles south of the Moore Diversion; about 1,455 feet south and 1,600 feet west of the northeast corner of section 36, T. 6 N., R. 25 E.

Ap—0 to 7 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores; 35 percent gravel and 2 percent cobbles; neutral (pH 7.0); clear smooth boundary.

A—7 to 14 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine tubular pores; 35 percent gravel and 2 percent cobbles; neutral (pH 7.0); clear wavy boundary.

Bt—14 to 21 inches; brown (10YR 5/3) gravelly loam, brown (10YR 4/3) moist; weak medium prismatic structure parting to moderate fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine tubular pores; few faint clay films on faces of



pedes; 30 percent gravel and 2 percent cobbles; neutral (pH 7.2); clear wavy boundary.

Bw—21 to 33 inches; brown (10YR 5/3) very gravelly loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine and few medium and coarse roots; common very fine tubular pores; 35 percent gravel and 2 percent cobbles; neutral (pH 7.2); gradual wavy boundary.

2Bk1—33 to 44 inches; pale brown (10YR 6/3) extremely gravelly loamy sand, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; few very fine tubular pores; 55 percent gravel and 5 percent cobbles; common calcium carbonate coatings 1 millimeter thick on underside of rock fragments; neutral (pH 7.2); clear wavy boundary.

2Bk2—44 to 60 inches; dark grayish brown (10YR 4/2) extremely gravelly loamy sand, very dark brown (10YR 2/2) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 55 percent gravel and 10 percent cobbles; common calcium carbonate coatings 1 millimeter thick on underside of rock fragments; neutral (pH 7.2).

### ***Range in Characteristics***

*Depth to restrictive feature (2Bk horizon):* 20 to 40 inches to strongly contrasting textural stratification

*Thickness of mollic epipedon:* 11 to 15 inches

*Depth to argillic horizon:* 11 to 15 inches

*Depth to secondary carbonates:* 25 to 35 inches

#### *Ap and A horizons:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly loam

Content of rock fragments—35 to 50 percent gravel and cobbles

Reaction—neutral

#### *Bt horizon:*

Hue—10YR

Value—4 to 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—gravelly loam or very gravelly loam

Content of rock fragments—30 to 50 percent gravel and cobbles

Reaction—neutral or slightly alkaline

#### *Bw horizon:*

Hue—10YR

Value—4 or 5 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—gravelly loam, very gravelly loam, or very gravelly sandy loam

Content of rock fragments—25 to 50 percent gravel and cobbles

Reaction—neutral or slightly alkaline

#### *2Bk horizon:*

Hue—10YR

Value—4 to 6 dry, 2 to 4 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly loamy sand, extremely gravelly loamy sand, or extremely gravelly sand

Content of rock fragments—50 to 70 percent gravel and cobbles  
 Calcium carbonate equivalent—1 to 10 percent  
 Reaction—neutral or slightly alkaline

## ***Deuce Series***

*Depth class:* Shallow

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains, rims

*Parent material:* Mixed alluvium and loess over basalt

*Slope range:* 2 to 20 percent

*Elevation:* 4,500 to 5,800 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 100 days

*Taxonomic class:* Loamy, mixed, frigid Lithic Xeric Haplocalcids

### ***Typical Pedon***

Deuce stony silt loam in an area of Nargon-Deuce-Lava flows complex, 0 to 20 percent slopes, Bingham County, Idaho, about 8 miles northeast of Twin Buttes and about 10 miles northwest of Atomic City, Idaho; about 2,150 feet north and 400 feet east of the southwest corner of section 14, T. 3 N., R. 33 E.

- A—0 to 2 inches; light brownish gray (10YR 6/2) stony silt loam, brown (10YR 4/3) moist; weak medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 5 percent gravel, 5 percent cobbles, and 5 percent stones; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.
- Bk1—2 to 6 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 5 percent gravel, 5 percent cobbles, and 2 percent stones; strongly effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); clear wavy boundary.
- Bk2—6 to 11 inches; very pale brown (10YR 7/3) silt loam, brown (10YR 5/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 2 percent gravel, 3 percent cobbles, and 1 percent stones; strongly effervescent; common calcium carbonate coatings 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.
- Bkq—11 to 19 inches; very pale brown (10YR 8/3) silt loam, pale brown (10YR 6/3) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; few very fine tubular pores; few hard coarse rounded nodules; cicada krotovinas; 2 percent gravel, 5 percent cobbles, and 3 percent stones; strongly effervescent; common calcium carbonate and few silica coatings 1 to 3 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); abrupt wavy boundary.
- R—19 inches; basalt.

***Range in Characteristics***

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Depth to calcic horizon:* 2 to 8 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—stony silt loam

Content of rock fragments—15 to 30 percent gravel, cobbles, and stones

Calcium carbonate equivalent—0 to 10 percent

Reaction—slightly alkaline or moderately alkaline

*Bk horizon:*

Hue—10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—3 or 4 dry or moist

Texture—silt loam, clay loam, or cobbly loam

Content of rock fragments—0 to 35 percent gravel, cobbles, and stones

Calcium carbonate equivalent—15 to 30 percent

Reaction—slightly alkaline or moderately alkaline

*Bkq horizon:*

Hue—10YR

Value—6 to 8 dry, 4 to 6 moist

Chroma—2 to 4 dry or moist

Texture—silt loam, clay loam, or stony clay loam

Content of rock fragments—5 to 35 percent gravel, cobbles, and stones

Calcium carbonate equivalent—20 to 35 percent

Reaction—moderately alkaline or strongly alkaline

***Dickeypeak Series***

*Depth class:* Very deep

*Drainage class:* Somewhat poorly drained

*Landscape:* Plains

*Landform:* Stream terraces

*Parent material:* Mixed alluvium

*Slope range:* 0 to 4 percent

*Elevation:* 5,200 to 5,700 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 37 to 39 degrees F

*Frost-free period:* 35 to 55 days

*Taxonomic class:* Coarse-loamy, mixed, frigid Aquic Haplocalcids

***Typical Pedon***

Dickeypeak silty clay loam in an area of Dickeypeak-Bigrant complex, 0 to 4 percent slopes, Butte County, Idaho, about 15 miles northwest of Howe, Idaho; about 600 feet north and 1,000 feet east of the southwest corner of section 8, T. 7 N., R. 28 E.

Akn—0 to 2 inches; light gray (10YR 7/2) silty clay loam, brown (10YR 5/3) moist; moderate medium granular structure; soft, very friable, slightly sticky and slightly

plastic; many very fine and common fine and medium roots; common very fine irregular pores; strongly effervescent; strongly alkaline (pH 8.5); clear smooth boundary.

Bk—2 to 10 inches; light gray (10YR 7/2) loam, grayish brown (10YR 5/2) moist; moderate coarse subangular blocky structure; soft, very friable, sticky and slightly plastic; common very fine, fine, and medium roots; many fine and common medium irregular pores; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bkg1—10 to 23 inches; light gray (10YR 7/2) loam, grayish brown (10YR 5/2) moist; common fine distinct redoximorphic depletions that are pale brown (10YR 6/3) moist; moderate coarse subangular blocky structure; soft, very friable, sticky and plastic; common fine and medium roots; many very fine and fine irregular pores; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bkg2—23 to 50 inches; light gray (2.5Y 7/2) loam, grayish brown (2.5Y 5/2) moist; common medium distinct redoximorphic depletions that are pale brown (10YR 6/3) moist; moderate medium subangular blocky structure; slightly hard, firm, sticky and plastic; few medium roots; many very fine and fine tubular pores; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

BCg—50 to 70 inches; light brownish gray (2.5Y 6/2) gravelly fine sandy loam, grayish brown (2.5Y 5/2) moist; many fine prominent redoximorphic concentrations that are yellowish brown (10YR 5/6) moist; massive; slightly hard, friable, slightly sticky and nonplastic; common fine irregular pores; 25 percent gravel; strongly effervescent; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to water table:* 1.5 to 3.5 feet in March through August

*Depth to calcic horizon:* 5 to 10 inches

*Akn horizon:*

Hue—10YR

Value—5 to 7 dry, 4 or 5 moist

Chroma—2 to 4 dry or moist

Texture—silty clay loam

Calcium carbonate equivalent—20 to 40 percent

Sodium adsorption ratio—15 to 25

Reaction—moderately alkaline or strongly alkaline

*Bk horizon:*

Hue—10YR

Value—5 to 7 dry, 4 to 6 moist

Chroma—2 to 4 dry or moist

Texture—loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—20 to 50 percent

Sodium adsorption ratio—3 to 10

Reaction—moderately alkaline

*Bkg horizon:*

Hue—10YR or 2.5Y

Value—6 or 7 dry, 4 or 5 moist

Chroma—1 to 4 dry or moist

Texture—loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—20 to 50 percent

Sodium adsorption ratio—3 to 5

Reaction—moderately alkaline

*BCg horizon:*

Hue—10YR or 2.5Y

Value—6 or 7 dry, 4 or 5 moist

Chroma—1 to 5 dry or moist

Texture—gravelly fine sandy loam

Content of rock fragments—15 to 35 percent gravel

Calcium carbonate equivalent—0 to 20 percent

Sodium adsorption ratio—3 to 5

Reaction—moderately alkaline

## ***Dollarhide Series***

*Depth class:* Shallow

*Drainage class:* Well drained

*Landscape:* Hills, mountains

*Landform:* Hillslopes, mountain slopes, ridges

*Parent material:* Colluvium and residuum derived from siltstone, conglomerate, sandstone, granodiorite, and quartzite

*Slope range:* 15 to 60 percent

*Elevation:* 6,000 to 9,300 feet

*Mean annual precipitation:* 16 to 24 inches

*Mean annual air temperature:* 36 to 41 degrees F

*Frost-free period:* 30 to 60 days

*Taxonomic class:* Loamy-skeletal, mixed Lithic Cryoborolls

### ***Typical Pedon***

Dollarhide very gravelly silt loam in an area of Lavacreek-Dollarhide complex, 15 to 60 percent slopes, Butte County, Idaho, about 1.5 miles southwest of Cave Rock; about 500 feet south and 2,000 feet east of the northwest corner of section 26, T. 3 N., R. 23 E.

A—0 to 8 inches; grayish brown (10YR 5/2) very gravelly silt loam, brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; common very fine and fine irregular pores; 35 percent gravel and 5 percent cobbles; neutral (pH 7.2); clear smooth boundary.

Bw—8 to 13 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine, fine, and medium roots; common very fine and fine irregular pores; 30 percent gravel and 15 percent cobbles; neutral (pH 7.2); abrupt wavy boundary.

R1—13 to 17 inches; fractured quartzite; vertical and horizontal fractures 1 to 2 millimeters wide; soil material in less than 5 percent of fractures; common very fine and fine roots along fracture planes; gradual irregular boundary.

R2—17 inches; quartzite.

### ***Range in Characteristics***

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Thickness of mollic epipedon:* 7 to 10 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly silt loam

Content of rock fragments—35 to 60 percent gravel and cobbles

Reaction—neutral or slightly alkaline

*Bw horizon:*

Hue—10YR

Value—4 to 6 dry, 3 or 4 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly loam or extremely cobbly loam

Content of rock fragments—45 to 70 percent gravel and cobbles

Reaction—neutral or slightly alkaline

***Donkehill Series****Depth class:* Shallow*Drainage class:* Well drained*Landscape:* Foothills, mountains*Landform:* Hillslopes, mountain slopes*Parent material:* Colluvium over andesite*Slope range:* 20 to 50 percent*Elevation:* 6,500 to 7,500 feet*Mean annual precipitation:* 13 to 15 inches*Mean annual air temperature:* 34 to 36 degrees F*Frost-free period:* 30 to 60 days*Taxonomic class:* Loamy-skeletal, mixed Argic Lithic Cryoborolls***Typical Pedon***

Donkehill very gravelly loam, 20 to 50 percent slopes, Butte County, Idaho, about 3 miles northwest of Hawley Mountain; about 1,450 feet north and 1,300 feet east of the southwest corner of section 30, T. 10 N., R. 26 E.

A1—0 to 4 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; 30 percent gravel, 5 percent cobbles, and 3 percent stones; slightly alkaline (pH 7.6); clear smooth boundary.

A2—4 to 9 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 30 percent gravel, 5 percent cobbles, and 2 percent stones; slightly alkaline (pH 7.6); gradual wavy boundary.

Bt1—9 to 16 inches; brown (10YR 5/3) very gravelly clay loam, dark brown (10YR 4/3) moist; weak medium prismatic structure parting to moderate fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; few faint clay films on faces of peds and in pores; 25 percent gravel, 10 percent cobbles, and 2 percent stones; slightly alkaline (pH 7.6); gradual wavy boundary.

Bt2—16 to 19 inches; pale brown (10YR 6/3) very cobbly clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable,

slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; few faint clay films on faces of peds and in pores; 25 percent gravel, 15 percent cobbles, and 5 percent stones; slightly alkaline (pH 7.6); abrupt wavy boundary.

R—19 inches; andesite.

### ***Range in Characteristics***

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Thickness of mollic epipedon:* 7 to 12 inches

*Depth to argillic horizon:* 7 to 12 inches

*A horizon:*

Hue—10YR

Value—3 to 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly loam

Content of rock fragments—35 to 55 percent gravel, cobbles, and stones

Reaction—slightly alkaline

*Bt horizon:*

Hue—10YR

Value—4 to 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly clay loam or very cobbly clay loam

Content of rock fragments—35 to 55 percent gravel, cobbles, and stones

Calcium carbonate equivalent—0 to 10 percent

Reaction—slightly alkaline

### ***Drage Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Foothills

*Landform:* Hillslopes

*Parent material:* Mixed alluvium

*Slope range:* 2 to 20 percent

*Elevation:* 4,800 to 7,000 feet

*Mean annual precipitation:* 12 to 16 inches

*Mean annual air temperature:* 39 to 45 degrees F

*Frost-free period:* 60 to 90 days

*Taxonomic class:* Loamy-skeletal, mixed, frigid Calcic Argixerolls

### ***Typical Pedon***

Drage gravelly loam in an area of Justesen-Drage complex, 1 to 20 percent slopes, Butte County, Idaho, about 1 mile south of Timbered Dome and 12 miles west of Arco, Idaho; about 200 feet north and 1,100 feet east of the southwest corner of section 7, T. 3 N., R. 25 E.

A—0 to 6 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and moderately plastic; many very fine roots; common fine irregular pores; 10 percent gravel, 3 percent cobbles, and 2 percent stones; neutral (pH 7.2); clear smooth boundary.

BA—6 to 15 inches; grayish brown (10YR 5/2) gravelly clay loam, very dark grayish



brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and very fine roots; common fine tubular pores; 15 percent gravel and 5 percent cobbles; neutral (pH 7.2); clear smooth boundary.

Bt—15 to 30 inches; pale brown (10YR 6/3) very cobbly clay loam, brown (10YR 4/3) moist; weak fine to coarse subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, fine, and coarse roots; common fine tubular pores; few faint clay films on faces of peds; 20 percent gravel, 20 percent cobbles, and 3 percent stones; neutral (pH 7.2); gradual wavy boundary.

Bk1—30 to 43 inches; pale brown (10YR 6/3) extremely cobbly clay loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and coarse roots; few fine tubular pores; 30 percent gravel, 25 percent cobbles, and 6 percent stones; few veins of calcium carbonate; few coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); clear wavy boundary.

Bk2—43 to 60 inches; pale brown (10YR 6/3) extremely cobbly loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and coarse roots; few fine tubular pores; 35 percent gravel, 25 percent cobbles, and 3 percent stones; strongly effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 10 to 17 inches

*Depth to argillic horizon:* 10 to 17 inches

*Depth to secondary carbonates:* 25 to 43 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 34 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

#### *BA and Bt horizons:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 to 4 dry or moist

Texture—gravelly clay loam, very gravelly clay loam, or very cobbly clay loam

Content of rock fragments—15 to 55 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 to 4 dry or moist

Texture—extremely cobbly loam, extremely cobbly sandy loam, or extremely cobbly clay loam

Content of rock fragments—60 to 75 percent gravel, cobbles, and stones

Calcium carbonate equivalent—5 to 30 percent

Reaction—slightly alkaline or moderately alkaline

## ***Dredge Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Alluvium derived from siltstone and limestone

*Slope range:* 1 to 5 percent

*Elevation:* 5,500 to 6,600 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 39 to 43 degrees F

*Frost-free period:* 60 to 80 days

*Taxonomic class:* Fine-loamy, mixed, frigid Typic Haploxerolls

### ***Typical Pedon***

Dredge loam, 1 to 5 percent slopes, Butte County, Idaho, in a roadcut 1,100 feet north of the Champagne Creek Road turnoff; about 650 feet south and 450 feet east of the northwest corner of section 30, T. 3 N., R. 25 E.

A1—0 to 8 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak very fine granular structure; soft, very friable, nonsticky and slightly plastic; many very fine, fine, and medium and common coarse roots; many very fine irregular pores; moderately alkaline (pH 8.2); clear wavy boundary.

A2—8 to 12 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak very fine and fine subangular blocky structure; soft, very friable, nonsticky and slightly plastic; many very fine and common medium and coarse roots; many very fine tubular pores; moderately alkaline (pH 8.2); clear wavy boundary.

Bw1—12 to 20 inches; brown (10YR 5/3) loam, brown (7.5YR 4/3) moist; weak coarse prismatic structure parting to moderate very fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, fine, and coarse roots; many very fine and fine tubular pores; moderately alkaline (pH 8.2); gradual wavy boundary.

Bw2—20 to 31 inches; brown (10YR 5/3) loam, brown (7.5YR 4/3) moist; weak coarse prismatic structure parting to moderate very fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, fine, medium, and coarse roots; many very fine and common fine tubular pores; 2 percent gravel; moderately alkaline (pH 8.2); clear irregular boundary.

Bw3—31 to 46 inches; brown (10YR 5/3) loam, brown (10YR 4/3) moist; moderate very fine and fine subangular blocky structure; slightly hard, very friable, slightly sticky and moderately plastic; few very fine and fine roots; many very fine and fine tubular pores; 10 percent gravel; moderately alkaline (pH 8.2); gradual wavy boundary.

BC—46 to 60 inches; pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; weak very fine and fine subangular blocky structure; slightly hard, very friable, slightly sticky and moderately plastic; few fine roots; many very fine and fine tubular pores; 10 percent gravel; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 10 to 15 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist  
 Texture—loam  
 Content of rock fragments—0 to 15 percent gravel  
 Reaction—moderately alkaline

*Bw and BC horizons:*

Hue—7.5YR or 10YR  
 Value—4 to 6 dry, 3 to 5 moist  
 Chroma—3 or 4 dry or moist  
 Texture—loam  
 Content of rock fragments—0 to 15 percent gravel  
 Reaction—moderately alkaline

## ***Elbow Series***

*Depth class:* Moderately deep to a duripan  
*Drainage class:* Well drained  
*Landscape:* Plains  
*Landform:* Fan remnants  
*Parent material:* Mixed alluvium  
*Slope range:* 1 to 4 percent  
*Elevation:* 5,900 to 6,300 feet  
*Mean annual precipitation:* 11 to 13 inches  
*Mean annual air temperature:* 38 to 42 degrees F  
*Frost-free period:* 70 to 80 days  
*Taxonomic class:* Loamy-skeletal, mixed, frigid Haploduridic Durixerolls

### ***Typical Pedon***

Elbow gravelly loam, 1 to 4 percent slopes, Butte County, Idaho, about 11 miles north of Moore, Idaho; about 2,600 feet north and 850 feet east of the southwest corner of section 30, T. 7 N., R. 26 E.

- A—0 to 5 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate very thick platy structure; soft, very friable, nonsticky and nonplastic; common very fine and few medium roots; few very fine tubular pores; 20 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.
- Bk1—5 to 12 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, friable, nonsticky and nonplastic; common very fine and few medium roots; few very fine tubular pores; 20 percent gravel; common coatings of calcium carbonate on underside of rock fragments; violently effervescent; strongly alkaline (pH 8.5); clear wavy boundary.
- Bk2—12 to 17 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine roots; few very fine tubular pores; 25 percent gravel and 5 percent cobbles; common coatings of calcium carbonate on underside of rock fragments; violently effervescent; strongly alkaline (pH 8.5); clear wavy boundary.
- Bkq—17 to 23 inches; light brownish gray (10YR 6/2) extremely gravelly sandy loam, grayish brown (10YR 5/2) moist; weak very thick platy structure; slightly hard, friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 65 percent gravel and 10 percent cobbles; common coatings of calcium carbonate and silica on underside of rock fragments; violently effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

- 2Bkqm—23 to 31 inches; pinkish gray (7.5YR 7/2) indurated duripan, grayish brown (10YR 5/2) moist; 45 percent gravel and 30 percent cobbles; violently effervescent; abrupt wavy boundary.
- 2B'kq1—31 to 35 inches; light gray (10YR 7/2) extremely cobbly coarse sandy loam, grayish brown (10YR 5/2) moist; massive; hard, firm, nonsticky and nonplastic; few very fine tubular pores; 40 percent gravel, 30 percent cobbles, and 10 percent stones; common coatings of calcium carbonate and silica on underside of rock fragments; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.
- 2B'kq2—35 to 55 inches; multicolored extremely cobbly sand; single grain; loose, nonsticky and nonplastic; many fine irregular pores; 55 percent gravel and 30 percent cobbles; common coatings of calcium carbonate and silica on underside of rock fragments; strongly effervescent; strongly alkaline (pH 8.8); clear wavy boundary.
- 2B'k—55 to 60 inches; light gray (10YR 7/2) extremely cobbly coarse sand, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine irregular pores; 55 percent gravel and 30 percent cobbles; common coatings of calcium carbonate on underside of rock fragments; strongly effervescent; strongly alkaline (pH 8.8).

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 30 inches to a duripan

*Thickness of mollic epipedon:* 11 to 18 inches

*Depth to calcic horizon:* 2 to 6 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 35 percent gravel

Calcium carbonate equivalent—5 to 10 percent

Reaction—moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam or very gravelly loam

Content of rock fragments—20 to 40 percent gravel and cobbles

Calcium carbonate equivalent—10 to 20 percent

Reaction—moderately alkaline or strongly alkaline

#### *Bkq horizon:*

Hue—10YR

Value—5 or 6 dry, 3 to 5 moist

Chroma—2 or 3 dry or moist

Texture—extremely gravelly sandy loam

Content of rock fragments—60 to 80 percent gravel and cobbles

Calcium carbonate equivalent—15 to 20 percent

Reaction—moderately alkaline or strongly alkaline

#### *2Bkqm horizon:*

Cementation—indurated in upper part; strongly cemented or moderately cemented in lower part

*2B'kq and 2B'k horizons:*

Hue—10YR or multicolored

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—extremely cobbly coarse sandy loam, extremely cobbly coarse sand, or extremely cobbly sand

Content of rock fragments—60 to 85 percent gravel, cobbles, and stones

Calcium carbonate equivalent—10 to 20 percent

Reaction—moderately alkaline or strongly alkaline

**Fallert Series***Depth class:* Very deep*Drainage class:* Well drained*Landscape:* Plains*Landform:* Fan remnants*Parent material:* Alluvium, slope alluvium, and colluvium derived from limestone*Slope range:* 2 to 12 percent*Elevation:* 5,400 to 6,400 feet*Mean annual precipitation:* 8 to 11 inches*Mean annual air temperature:* 41 to 45 degrees F*Frost-free period:* 70 to 80 days*Taxonomic class:* Sandy-skeletal, carbonatic, frigid Durinodic Xeric Haplocalcids**Typical Pedon**

Fallert gravelly loam in an area of Paint-Fallert complex, 4 to 12 percent slopes, Butte County, Idaho, about 6 miles south of Hawley Mountain; about 1,750 south and 2,000 feet east of the northwest corner of section 8, T. 8 N., R. 27 E.

A—0 to 3 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak thin platy structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; common very fine tubular pores; 25 percent gravel and 3 percent cobbles; strongly effervescent; strongly alkaline (pH 8.5); clear smooth boundary.

Bw—3 to 11 inches; brown (10YR 5/3) very gravelly loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and few medium roots; common very fine tubular pores; 40 percent gravel and 10 percent cobbles; strongly effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

Bkq1—11 to 18 inches; light brownish gray (10YR 6/2) very gravelly sandy loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine and fine and common medium roots; common very fine tubular pores; 45 percent gravel and 5 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica; 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); gradual wavy boundary.

Bkq2—18 to 27 inches; pale brown (10YR 6/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine and fine and few medium roots; common very fine tubular pores; 45 percent gravel and 10 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); clear wavy boundary.

2Bkq3—27 to 39 inches; light brownish gray (10YR 6/2) extremely gravelly loamy coarse sand, very dark grayish brown (10YR 3/2) moist; massive; hard, firm and brittle, nonsticky and nonplastic; some discontinuous, platy, very hard and very firm areas that are weakly cemented to strongly cemented; many very fine and fine and few medium roots; common very fine irregular pores; 50 percent gravel and 10 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); gradual wavy boundary.

2Bkq4—39 to 60 inches; light brownish gray (10YR 6/2) extremely gravelly loamy coarse sand, very dark grayish brown (10YR 3/2) moist; massive; hard, firm and brittle, nonsticky and nonplastic; some discontinuous, platy, very hard and very firm areas that are weakly cemented to strongly cemented; few very fine and fine roots; common very fine tubular pores; 50 percent gravel and 10 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature (2Bkq horizon):* 19 to 30 inches to strongly contrasting textural stratification

*Depth to calcic horizon:* 10 to 15 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 35 percent gravel and cobbles

Calcium carbonate equivalent—20 to 55 percent

Reaction—moderately alkaline or strongly alkaline

#### *Bw horizon:*

Hue—10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—3 or 4 dry or moist

Texture—gravelly loam or very gravelly loam

Content of rock fragments—25 to 55 percent gravel and cobbles

Calcium carbonate equivalent—20 to 40 percent

Reaction—moderately alkaline or strongly alkaline

#### *Bkq and 2Bkq horizons:*

Hue—10YR

Value—5 to 7 dry, 3 to 6 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly sandy loam, very gravelly loamy sand, extremely gravelly loamy sand, or extremely gravelly loamy coarse sand

Content of rock fragments—45 to 80 percent gravel and cobbles

Calcium carbonate equivalent—40 to 75 percent

Reaction—moderately alkaline or strongly alkaline

### ***Fandow Series***

*Depth class:* Shallow to a duripan

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants



*Parent material:* Mixed alluvium

*Slope range:* 2 to 6 percent

*Elevation:* 6,000 to 6,400 feet

*Mean annual precipitation:* 8 to 11 inches

*Mean annual air temperature:* 36 to 38 degrees F

*Frost-free period:* 50 to 60 days

*Taxonomic class:* Loamy-skeletal, carbonatic, shallow Duric Xeric Petrocrysids

### ***Typical Pedon***

Fandow gravelly loam, 2 to 6 percent slopes, Butte County, Idaho, about 5 miles northwest of Clyde, Idaho; about 800 feet south and 1,200 feet east of the northwest corner of section 14, T. 10 N., R. 26 E.

- A1—0 to 3 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak thin platy structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine and fine roots; many very fine tubular pores; 30 percent gravel and 1 percent cobbles; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.
- A2—3 to 6 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and few medium roots; common very fine tubular pores; 30 percent gravel and 2 percent cobbles; strongly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.
- Bk—6 to 11 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 45 percent gravel and 2 percent cobbles; strongly effervescent; few coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 8.2); clear wavy boundary.
- Bkq—11 to 19 inches; light brownish gray (10YR 6/2) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; hard, friable, nonsticky and nonplastic; common very fine, fine, and medium roots; common very fine irregular pores; 55 percent gravel and 3 percent cobbles; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2); abrupt wavy boundary.
- 2Bkqm—19 to 20 inches; very pale brown (10YR 8/2) very strongly cemented duripan; continuous root mat 1 to 3 millimeters thick above duripan; continuous laminar cap 1 millimeter thick; 60 percent gravel and 5 percent cobbles; clear wavy boundary.
- 2Bkq1—20 to 27 inches; light brownish gray (10YR 6/2) extremely gravelly loamy coarse sand, very dark grayish brown (10YR 3/2) moist; massive; hard, firm, nonsticky and nonplastic; very few very fine roots; 55 percent gravel and 5 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.8); gradual wavy boundary.
- 2Bkq2—27 to 36 inches; light brownish gray (10YR 6/2) extremely gravelly loamy coarse sand, dark grayish brown (10YR 4/2) moist; massive; hard, friable, nonsticky and nonplastic; very few very fine roots; 55 percent gravel and 10 percent cobbles; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.8); gradual wavy boundary.
- 2Bkq3—36 to 60 inches; light gray (10YR 7/2) extremely gravelly loamy sand, grayish brown (10YR 5/2) moist; massive; hard, friable, nonsticky and nonplastic;



65 percent gravel and 10 percent cobbles; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.8).

### ***Range in Characteristics***

*Depth to restrictive feature:* 10 to 19 inches to a duripan

*Depth to calcic horizon:* 2 to 6 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 34 percent gravel and cobbles

Calcium carbonate equivalent—10 to 30 percent

Reaction—slightly alkaline or moderately alkaline

*Bk and Bkq horizons:*

Hue—10YR

Value—6 or 7 dry, 3 to 5 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly sandy loam

Content of rock fragments—35 to 59 percent gravel and cobbles

Calcium carbonate equivalent—40 to 65 percent

Reaction—moderately alkaline

*2Bkqm horizon:*

Cementation—very strongly cemented or indurated

*2Bkq horizon:*

Hue—10YR

Value—6 or 7 dry, 3 to 5 moist

Chroma—2 or 3 dry or moist

Texture—extremely gravelly loamy sand or extremely gravelly loamy coarse sand

Content of rock fragments—60 to 75 percent gravel and cobbles

Calcium carbonate equivalent—30 to 50 percent

Reaction—moderately alkaline to very strongly alkaline

The Fandow soils in this survey area are a taxadjunct to the Fandow series because they have a very strongly cemented or indurated duripan. The soils in the Fandow series have a weakly cemented duripan.

## ***Frymire Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Foothills

*Landform:* Hillslopes

*Parent material:* Colluvium and slope alluvium derived from andesite

*Slope range:* 15 to 50 percent

*Elevation:* 6,500 to 8,500 feet

*Mean annual precipitation:* 14 to 16 inches

*Mean annual air temperature:* 38 to 42 degrees F

*Frost-free period:* 50 to 70 days

*Taxonomic class:* Clayey-skeletal, montmorillonitic Argic Vertic Cryoborolls

### ***Typical Pedon***

Frymire very cobbly clay loam in an area of Riverlost-Frymire complex, 5 to 50 percent slopes, Butte County, Idaho, about 2 miles south of Timbered Dome and 11 miles west of Arco, Idaho; about 1,300 feet south and 500 feet east of the northwest corner of section 33, T. 4 N., R. 25 E.

- A1—0 to 4 inches; grayish brown (10YR 5/2) very cobbly clay loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; slightly hard, very friable, moderately sticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; 15 percent gravel, 15 percent cobbles, and 5 percent stones; neutral (pH 7.2); clear smooth boundary.
- A2—4 to 15 inches; brown (10YR 5/3) very cobbly silty clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine and fine and few medium and coarse roots; many very fine tubular pores; 15 percent gravel, 30 percent cobbles, and 5 percent stones; neutral (pH 7.2); clear wavy boundary.
- Bt1—15 to 31 inches; yellowish brown (10YR 5/4) very cobbly clay, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; very hard, firm, very sticky and very plastic; common very fine and fine roots; common very fine irregular pores; common distinct clay films on faces of peds and in pores; 10 percent gravel, 30 percent cobbles, and 15 percent stones; neutral (pH 7.2); gradual wavy boundary.
- Bt2—31 to 52 inches; brown (7.5YR 4/4) very cobbly clay, strong brown (7.5YR 4/6) moist; moderate fine and medium subangular blocky structure; very hard, firm, very sticky and very plastic; common fine and few medium roots; common very fine irregular pores; common faint clay films on faces of peds and in pores; 10 percent gravel, 25 percent cobbles, and 5 percent stones; neutral (pH 7.2); abrupt irregular boundary.
- BC—52 to 61 inches; very pale brown (10YR 8/4) cobbly clay loam, dark yellowish brown (10YR 4/4) moist; iron accumulations that are light yellowish brown (10YR 6/4) moist; massive; hard, friable, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; 10 percent gravel, 10 percent cobbles, and 5 percent stones; neutral (pH 7.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 10 to 18 inches

*Depth to argillic horizon:* 12 to 18 inches

#### *A1 horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—very cobbly clay loam

Content of rock fragments—35 to 55 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

#### *A2 horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—very cobbly silty clay loam

Content of rock fragments—35 to 55 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

*Bt horizon:*

Hue—7.5YR or 10YR

Value—4 or 5 dry, 2 to 4 moist

Chroma—4 to 6 dry or moist

Texture—very cobbly clay or extremely cobbly clay

Content of rock fragments—35 to 65 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

*BC horizon:*

Hue—10YR

Value—6 to 8 dry, 3 to 5 moist

Chroma—4 to 6 dry or moist

Texture—cobbly clay loam

Content of rock fragments—15 to 30 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

## ***Fulwider Series***

*Depth class:* Shallow to a duripan

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Alluvium derived from limestone and quartzite

*Slope range:* 2 to 25 percent

*Elevation:* 5,500 to 6,600 feet

*Mean annual precipitation:* 10 to 14 inches

*Mean annual air temperature:* 40 to 43 degrees F

*Frost-free period:* 75 to 95 days

*Taxonomic class:* Loamy-skeletal, mixed, frigid, shallow Xeric Haplodurids

### ***Typical Pedon***

Fulwider gravelly silt loam in an area of Fulwider complex, 2 to 25 percent slopes, Butte County, Idaho, about 1 mile northwest of Clyde, Idaho; about 1,200 feet north and 1,350 feet east of the southwest corner of section 34, T. 10 N., R. 27 E.

A—0 to 2 inches; pale brown (10YR 6/3) gravelly silt loam, brown (10YR 4/3) moist; weak medium platy structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 15 percent gravel and 5 percent cobbles; slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bw—2 to 6 inches; very pale brown (10YR 7/3) very gravelly loam, brown (10YR 5/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine and fine and few medium roots; common very fine tubular pores; 30 percent gravel and 10 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bkq—6 to 10 inches; very pale brown (10YR 7/3) very gravelly loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; hard, friable, nonsticky and slightly plastic; many very fine, fine, and medium roots; common very fine tubular pores; 25 percent gravel and 10 percent cobbles; strongly effervescent; few coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 8.2); abrupt smooth boundary.

2Bkqm—10 to 15 inches; very pale brown (10YR 8/3) indurated duripan; continuous

root mat 1 to 3 millimeters thick above duripan; 30 percent gravel and 20 percent cobbles; clear wavy boundary.

2Bkm—15 to 22 inches; light yellowish brown (10YR 6/4) extremely cobbly loamy sand, brown (10YR 4/3) moist; massive, weakly cemented in places; hard, firm, nonsticky and nonplastic; very few very fine roots; 35 percent gravel, 25 percent cobbles, and 5 percent stones; strongly effervescent; common coatings of calcium carbonate and silica 2 to 5 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2); clear wavy boundary.

2Bk—22 to 60 inches; pale brown (10YR 6/3) extremely cobbly loamy sand, brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; very few very fine roots; 35 percent gravel, 25 percent cobbles, and 5 percent stones; strongly effervescent; common coatings of calcium carbonate and silica 1 to 3 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* 10 to 20 inches to a duripan

*Depth to calcic horizon:* 5 to 14 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam or gravelly silt loam

Content of rock fragments—15 to 30 percent gravel and cobbles

Calcium carbonate equivalent—5 to 25 percent

Reaction—slightly alkaline to strongly alkaline

#### *Bw horizon:*

Hue—10YR

Value—6 or 7 dry, 3 to 5 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly loam, very gravelly silt loam, or extremely gravelly sandy loam

Content of rock fragments—35 to 65 percent gravel and cobbles

Calcium carbonate equivalent—20 to 40 percent

Reaction—slightly alkaline to strongly alkaline

#### *Bkq horizon:*

Hue—10YR

Value—6 to 8 dry, 4 or 5 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly loam, very gravelly silt loam, or extremely gravelly sandy loam

Content of rock fragments—35 to 75 percent gravel and cobbles

Calcium carbonate equivalent—20 to 40 percent

Reaction—slightly alkaline to strongly alkaline

#### *2Bkqm horizon:*

Cementation—indurated

#### *2Bkm and 2Bk horizons:*

Hue—10YR

Value—6 to 8 dry, 4 or 5 moist

Chroma—3 or 4 dry or moist

Texture—extremely gravelly loam or extremely cobbly loamy sand

Content of rock fragments—60 to 85 percent gravel, cobbles, and stones

Calcium carbonate equivalent—20 to 40 percent

Reaction—slightly alkaline to strongly alkaline

## ***Goosebury Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Valleys

*Landform:* Fan remnants, outwash plains

*Parent material:* Alluvium derived from limestone

*Slope range:* 2 to 35 percent

*Elevation:* 6,300 to 8,000 feet

*Mean annual precipitation:* 8 to 13 inches

*Mean annual air temperature:* 36 to 40 degrees F

*Frost-free period:* 30 to 60 days

*Taxonomic class:* Loamy-skeletal, mixed Xeric Calcicryids

### ***Typical Pedon***

Goosebury very gravelly loam, 2 to 8 percent slopes, Butte County, Idaho, about 3.5 miles east of Taylor Mountain; about 1,900 feet south and 2,600 feet east of the northwest corner of section 19, T. 10 N., R. 26 E.

- A1—0 to 3 inches; grayish brown (10YR 5/2) very gravelly loam, dark brown (10YR 3/3) moist; weak medium platy structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and common fine roots; 35 percent gravel; slightly effervescent; slightly alkaline (pH 7.6); clear wavy boundary.
- A2—3 to 9 inches; pale brown (10YR 6/3) gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and few medium roots; common very fine tubular pores; 20 percent gravel and 5 percent cobbles; strongly effervescent; slightly alkaline (pH 7.6); gradual wavy boundary.
- Bkq1—9 to 17 inches; brown (10YR 5/3) very gravelly loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine and fine and few medium roots; few very fine tubular pores; 30 percent gravel and 5 percent cobbles; violently effervescent; few coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 7.9); clear wavy boundary.
- Bkq2—17 to 41 inches; grayish brown (10YR 5/2) extremely gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; massive; hard, friable, nonsticky and nonplastic; common very fine and fine and few medium roots; few very fine irregular pores; 55 percent gravel and 10 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.
- 2Bkq3—41 to 44 inches; gray (10YR 5/1) extremely gravelly loamy sand, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, friable, nonsticky and nonplastic; common very fine and fine roots; 55 percent gravel, 15 percent cobbles, and 5 percent stones; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.
- 2Bkq4—44 to 60 inches; gray (10YR 6/1) extremely gravelly loamy sand, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; 50 percent gravel, 15 percent cobbles, and 5 percent stones; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature (2Bkq horizon):* 40 to more than 60 inches to strongly contrasting textural stratification

*Depth to calcic horizon:* 2 to 9 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam or very gravelly loam

Content of rock fragments—15 to 55 percent gravel and cobbles

Calcium carbonate equivalent—0 to 15 percent

Reaction—slightly alkaline

*Bkq horizon:*

Hue—10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—1 to 4 dry or moist

Texture—gravelly loam, very gravelly loam, very gravelly sandy loam, or extremely gravelly sandy loam

Content of rock fragments—15 to 80 percent gravel, cobbles, and stones

Calcium carbonate equivalent—15 to 40 percent

Reaction—slightly alkaline or moderately alkaline

*2Bkq horizon:*

Hue—10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—1 to 4 dry or moist

Texture—extremely gravelly loamy sand or extremely gravelly loamy coarse sand

Content of rock fragments—60 to 80 percent gravel, cobbles, and stones

Calcium carbonate equivalent—15 to 35 percent

Reaction—slightly alkaline or moderately alkaline

### ***Grassy Butte Series***

*Depth class:* Very deep

*Drainage class:* Somewhat excessively drained

*Landscape:* Plains

*Landform:* Lava plains, mounds

*Parent material:* Eolian deposits

*Slope range:* 12 to 15 percent

*Elevation:* 4,800 to 5,500 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 40 to 45 degrees F

*Frost-free period:* 75 to 85 days

*Taxonomic class:* Sandy, mixed, frigid Typic Haplocalcids

### ***Typical Pedon***

Grassy Butte loamy sand in an area of Matheson-Grassy Butte complex, 2 to 15 percent slopes, Butte County, Idaho, about 9 miles east of Howe, Idaho; about 500 feet south and 20 feet west of the northeast corner of section 29, T. 6 N., R. 30 E.

A—0 to 7 inches; grayish brown (10YR 5/2) loamy sand, very dark grayish brown (10YR 3/2) moist; single grain; loose, nonsticky and nonplastic; common medium

roots; many very fine irregular pores; slightly effervescent; slightly alkaline (pH 7.5); clear smooth boundary.

Bk1—7 to 20 inches; light brownish gray (10YR 6/2) loamy sand, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; common fine and very fine roots; common very fine irregular pores; moderately effervescent; slightly alkaline (pH 7.5); gradual wavy boundary.

Bk2—20 to 32 inches; light brownish gray (10YR 6/2) loamy sand, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; common very fine and fine roots; few very fine irregular pores; strongly effervescent; slightly alkaline (pH 7.5); gradual wavy boundary.

Bk3—32 to 50 inches; light brownish gray (10YR 6/2) loamy sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; common very fine and fine roots; few very fine irregular pores; 2 percent gravel; strongly effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of gravel; slightly alkaline (pH 7.5); gradual wavy boundary.

Bk4—50 to 60 inches; light brownish gray (10YR 6/2) loamy sand, pale brown (10YR 6/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; few very fine irregular pores; 2 percent gravel; moderately effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of gravel; slightly alkaline (pH 7.5).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to calcic horizon:* 7 to 24 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—loamy sand

Calcium carbonate equivalent—0 to 15 percent

Reaction—neutral to moderately alkaline

*Bk horizon:*

Hue—10YR

Value—4 to 7 dry, 3 to 6 moist

Chroma—1 to 3 dry or moist

Texture—loamy sand

Calcium carbonate equivalent—15 to 40 percent

Reaction—neutral to moderately alkaline

## ***Grassycone Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Mountains

*Landform:* Mountain slopes

*Parent material:* Volcanic ash and cinders over colluvium

*Slope range:* 30 to 60 percent

*Elevation:* 6,000 to 8,500 feet

*Mean annual precipitation:* 16 to 24 inches

*Mean annual air temperature:* 36 to 41 degrees F

*Frost-free period:* 30 to 60 days

*Taxonomic class:* Medial Xeric Vitricryands



### ***Typical Pedon***

Grassycone fine sandy loam in an area of Lavacreek-Dollarhide-Grassycone complex, 30 to 60 percent slopes, Butte County, Idaho, about 1 mile west of the St. Louis Mine; about 20 feet north and 1,200 feet west of the southeast corner of section 36, T. 3 N., R. 23 E.

Oi—0 to 1 inch; slightly decomposed plant material.

A1—1 to 3 inches; dark brown (10YR 3/3) fine sandy loam, black (10YR 2/1) moist; strong fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; 10 percent cinders; slightly acid (pH 6.5); clear smooth boundary.

A2—3 to 9 inches; brown (10YR 4/3) gravelly sandy loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; many coarse roots; common very fine tubular pores; 15 percent cinders; slightly acid (pH 6.5); gradual smooth boundary.

Bw—9 to 57 inches; dark yellowish brown (10YR 4/4) gravelly fine sandy loam, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine tubular pores; 25 percent cinders and 1 percent cobbles; slightly acid (pH 6.5); clear wavy boundary.

2C—57 to 65 inches; pale brown (10YR 6/3) very cobbly loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores; 15 percent gravel and 35 percent cobbles; neutral (pH 7.0).

### ***Range in Characteristics***

*Depth to restrictive feature (2C horizon):* 40 to 60 inches to abrupt textural change

*Thickness of andic soil properties:* 40 to 60 inches

#### *A1 horizon:*

Hue—10YR

Value—3 to 5 dry, 2 or 3 moist

Chroma—1 to 3 dry or moist

Texture—fine sandy loam

Content of rock fragments—5 to 15 percent cinders

Reaction—moderately acid to neutral

#### *A2 and Bw horizons:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 to 4 dry or moist

Texture—fine sandy loam, gravelly fine sandy loam, or gravelly sandy loam

Content of rock fragments—10 to 35 percent cinders and cobbles

Calcium carbonate equivalent—0 to 5 percent

Reaction—moderately acid to neutral

#### *2C horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 to 4 dry or moist

Texture—cobbly loam, cobbly clay loam, very cobbly loam, or very cobbly clay loam

Content of rock fragments—30 to 55 percent gravel and cobbles

Calcium carbonate equivalent—0 to 5 percent

Reaction—neutral

## ***Grouseville Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Foothills, mountains

*Landform:* Hillslopes, mountain slopes

*Parent material:* Slope alluvium and colluvium derived from tuff and andesite

*Slope range:* 15 to 60 percent

*Elevation:* 6,500 to 8,500 feet

*Mean annual precipitation:* 13 to 15 inches

*Mean annual air temperature:* 37 to 43 degrees F

*Frost-free period:* 40 to 70 days

*Taxonomic class:* Fine, montmorillonitic Argic Pachic Cryoborolls

### ***Typical Pedon***

Grouseville silt loam in an area of Riverlost-Grouseville complex, 5 to 60 percent slopes; Custer County, Idaho; about 11 miles southwest of Darlington, Idaho; about 200 north and 1,100 feet east of the southwest corner of section 15, T. 5 N., R. 24 E.

A—0 to 7 inches; dark gray (10YR 4/1) silt loam, black (10YR 2/1) moist; weak fine granular structure parting to moderate fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine tubular pores; 5 percent gravel and 1 percent cobbles; neutral (pH 7.2); clear smooth boundary.

Bt1—7 to 18 inches; dark gray (10YR 4/1) clay loam, black (10YR 2/1) moist; weak moderate prismatic structure parting to moderate fine subangular blocky; hard, friable, slightly sticky and slightly plastic; many fine and very fine roots; many very fine tubular pores; few distinct clay films on faces of peds and in pores; 1 percent gravel and 1 percent cobbles; slightly alkaline (pH 7.6); clear wavy boundary.

Bt2—18 to 33 inches; dark grayish brown (10YR 4/2) clay, dark brown (10YR 3/3) moist; moderate coarse prismatic structure parting to strong medium subangular blocky; hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; common very fine irregular pores; some pressure faces on peds; many prominent clay films on faces of peds and in pores; 1 percent gravel and 1 percent cobbles; moderately alkaline (pH 7.9); clear wavy boundary.

Btk—33 to 60 inches; brown (10YR 5/3) clay loam, brown (10YR 4/3) moist; moderate medium prismatic structure parting to moderate medium subangular blocky; hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; common very fine irregular pores; common distinct clay films on faces of peds and in pores; 1 percent gravel; very few coatings of calcium carbonate 1 to 2 millimeters thick on underside of gravel; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 24 to 47 inches

*Depth to argillic horizon:* 7 to 14 inches

*Depth to secondary carbonates:* 25 to 50 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—1 to 3 dry or moist

Texture—silt loam

Content of rock fragments—0 to 10 percent gravel and cobbles

Reaction—neutral or slightly alkaline

*Bt1 and Bt2 horizons:*

Hue—10YR

Value—4 or 5 dry, 2 to 4 moist

Chroma—1 to 3 dry or moist

Texture—clay loam or clay

Content of rock fragments—0 to 10 percent gravel and cobbles

Calcium carbonate equivalent—0 to 5 percent

Reaction—slightly alkaline or moderately alkaline

*Btk horizon:*

Hue—10YR

Value—5 or 6 dry, 4 or 5 moist

Chroma—3 or 4 dry or moist

Texture—clay loam or clay

Content of rock fragments—0 to 10 percent gravel and cobbles

Calcium carbonate equivalent—2 to 5 percent

Reaction—slightly alkaline or moderately alkaline

## ***Hagenbarth Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Foothills

*Landform:* Hillslopes

*Parent material:* Colluvium and slope alluvium

*Slope range:* 5 to 45 percent

*Elevation:* 6,000 to 7,500 feet

*Mean annual precipitation:* 14 to 16 inches

*Mean annual air temperature:* 36 to 41 degrees F

*Frost-free period:* 40 to 60 days

*Taxonomic class:* Fine-loamy, mixed Argic Pachic Cryoborolls

### ***Typical Pedon***

Hagenbarth clay loam in an area of Hagenbarth-Howcan-Jonda association, 5 to 45 percent slopes, Butte County, Idaho, about 1.5 miles southwest of Timbered Dome and 14 miles west of Arco, Idaho; about 1,100 feet south and 2,300 feet west of the northeast corner of section 10, T. 3 N., R. 24 E.

A1—0 to 9 inches; brown (10YR 4/3) clay loam, very dark brown (10YR 2/2) moist; moderate very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common fine tubular pores; 1 percent gravel; neutral (pH 7.0); clear wavy boundary.

A2—9 to 20 inches; brown (10YR 4/3) loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine tubular pores; 1 percent gravel; neutral (pH 7.0); gradual wavy boundary.

Bt1—20 to 33 inches; light yellowish brown (10YR 6/4) clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine subangular blocky structure; hard, very friable, slightly sticky and moderately plastic; common very fine and few fine and

medium roots; many fine tubular pores; few faint clay films on faces of peds and in pores; 5 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt2—33 to 41 inches; brownish yellow (10YR 6/6) clay loam, dark yellowish brown (10YR 4/6) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; common fine tubular pores; few faint clay films on faces of peds; 1 percent gravel; neutral (pH 7.0); gradual wavy boundary.

BC—41 to 60 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/3) moist; iron concentrations that are dark brown (7.5YR 3/4) moist; weak fine subangular blocky structure; hard, friable, slightly sticky and moderately plastic; common very fine roots; common very fine tubular pores; 5 percent gravel; neutral (pH 7.0).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 17 to 30 inches

*Depth to argillic horizon:* 17 to 30 inches

#### *A1 horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—1 to 3 dry or moist

Texture—clay loam

Content of rock fragments—0 to 10 percent gravel

Reaction—neutral

#### *A2 horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—1 to 3 dry or moist

Texture—loam or clay loam

Content of rock fragments—0 to 10 percent gravel

Reaction—neutral

#### *Bt and BC horizons:*

Hue—7.5YR or 10YR

Value—4 to 6 dry, 3 to 5 moist

Chroma—3 to 6 dry or moist

Texture—clay loam

Content of rock fragments—0 to 14 percent gravel

Reaction—neutral

## ***Hal Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Mountains

*Landform:* Mountain slopes

*Parent material:* Volcanic ash and cinders

*Slope range:* 30 to 60 percent

*Elevation:* 6,000 to 8,500 feet

*Mean annual precipitation:* 16 to 18 inches

*Mean annual air temperature:* 37 to 40 degrees F

*Frost-free period:* 40 to 60 days

*Taxonomic class:* Medial Xeric Haplocryands

### ***Typical Pedon***

Hal gravelly loam in an area of Hal-Moonville association, 15 to 60 percent slopes, Butte County, Idaho, about 1.2 miles northwest of Golden Chariot Mine; about 1,100 feet north and 800 feet east of the southwest corner of section 23, T. 2 N., R. 24 E.

- A1—0 to 6 inches; brown (10YR 4/3) gravelly loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; common very fine tubular pores; 15 percent cinders; neutral (pH 6.7); clear smooth boundary.
- A2—6 to 12 inches; brown (7.5YR 5/4) gravelly loam, dark brown (7.5YR 3/3) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine and few medium roots; many very fine and fine tubular pores; 25 percent cinders; neutral (pH 6.7); gradual wavy boundary.
- Bw1—12 to 24 inches; brown (7.5YR 5/4) gravelly loam, dark brown (7.5YR 3/4) moist; weak coarse prismatic structure parting to moderate medium subangular blocky; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine tubular pores; 25 percent cinders; neutral (pH 7.0); gradual wavy boundary.
- Bw2—24 to 40 inches; brown (7.5YR 5/4) gravelly loam, dark brown (7.5YR 3/4) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine, fine, and medium roots; few very fine tubular pores; 30 percent cinders; neutral (pH 7.0); abrupt wavy boundary.
- 2C—40 to 60 inches; very dark brown (10YR 2/2) extremely gravelly loamy coarse sand, very dark brown (10YR 2/2) moist; single grain; loose, nonsticky and nonplastic; 80 percent cinders; neutral (pH 7.0).

### ***Range in Characteristics***

*Depth to restrictive feature (2C horizon):* 40 to 60 inches to strongly contrasting textural stratification

*Thickness of andic soil properties:* 40 to 60 inches

#### *A horizon:*

Hue—7.5YR or 10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 to 4 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 30 percent cinders

Reaction—slightly acid or neutral

#### *Bw horizon:*

Hue—7.5YR or 10YR

Value—4 or 5 dry, 3 or 4 moist

Chroma—4 to 6 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 30 percent cinders

Reaction—neutral

#### *2C horizon:*

Hue—10YR

Value—2 to 4 dry or moist

Chroma—2 to 4 dry or moist

Texture—extremely gravelly loamy coarse sand

Content of rock fragments—60 to 90 percent cinders

Reaction—neutral

## ***Hondoho Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Mixed alluvium and colluvium

*Slope range:* 4 to 30 percent

*Elevation:* 5,000 to 5,600 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 100 days

*Taxonomic class:* Loamy-skeletal, mixed, frigid Calcic Haploxerolls

### ***Typical Pedon***

Hondoho gravelly loam, 4 to 30 percent slopes, Butte County, Idaho, about 2 miles northeast of Big Southern Butte; about 1,400 feet south and 850 feet east of the northwest corner of section 13, T. 1 N., R. 29 E.

A1—0 to 3 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; soft, very friable, slightly sticky and nonplastic; common very fine roots; few very fine tubular pores; 15 percent gravel and 5 percent cobbles; moderately alkaline (pH 7.9); clear smooth boundary.

A2—3 to 6 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; few very fine tubular pores; 15 percent gravel and 15 percent cobbles; moderately alkaline (pH 7.9); clear wavy boundary.

Bw—6 to 10 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; few very fine tubular pores; 15 percent gravel and 10 percent cobbles; moderately alkaline (pH 7.9); clear wavy boundary.

Bk1—10 to 38 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; massive; hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few fine irregular pores; few coarse hard rounded nodules; cicada krotovinas; 30 percent gravel, 10 percent cobbles, and 10 percent stones; strongly effervescent; moderately alkaline (pH 8.2); clear irregular boundary.

Bk2—38 to 60 inches; yellowish brown (10YR 5/4) very gravelly loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; few fine roots; 25 percent gravel, 10 percent cobbles, and 5 percent stones; slightly effervescent; common silica coatings 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 10 to 16 inches

*Depth to calcic horizon:* 14 to 20 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—1 to 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 35 percent gravel and cobbles  
 Calcium carbonate equivalent—0 to 5 percent  
 Reaction—slightly alkaline or moderately alkaline

*Bw horizon:*

Hue—10YR  
 Value—4 to 7 dry, 3 to 6 moist  
 Chroma—2 to 6 dry or moist  
 Texture—gravelly loam  
 Content of rock fragments—15 to 35 percent gravel and cobbles  
 Calcium carbonate equivalent—0 to 5 percent  
 Reaction—slightly alkaline or moderately alkaline

*Bk horizon:*

Hue—10YR  
 Value—5 to 8 dry, 3 to 7 moist  
 Chroma—3 to 5 dry or moist  
 Texture—very gravelly loam  
 Content of rock fragments—35 to 60 percent gravel, cobbles, and stones  
 Calcium carbonate equivalent—15 to 40 percent  
 Reaction—moderately alkaline

## **Howcan Series**

*Depth class:* Deep

*Drainage class:* Well drained

*Landscape:* Foothills, mountains

*Landform:* Hillslopes, mountain slopes

*Parent material:* Colluvium and slope alluvium over latite and andesite

*Slope range:* 15 to 60 percent

*Elevation:* 5,000 to 7,500 feet

*Mean annual precipitation:* 12 to 16 inches

*Mean annual air temperature:* 37 to 43 degrees F

*Frost-free period:* 45 to 80 days

*Taxonomic class:* Loamy-skeletal, mixed, frigid Typic Argixerolls

### **Typical Pedon**

Howcan loam in an area of Howcan-Zeebar-Hutchley association, 15 to 60 percent slopes, Butte County, Idaho, about 3.5 miles southwest of Moore, Idaho; about 1,800 feet north and 2,100 feet east of the southwest corner of section 1, T. 4 N., R. 25 E.

A1—0 to 4 inches; dark brown (10YR 3/3) loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and moderately plastic; common very fine and fine roots; common very fine tubular pores; 10 percent gravel, 1 percent cobbles, and 3 percent stones; neutral (pH 7.2); gradual wavy boundary.

A2—4 to 10 inches; dark yellowish brown (10YR 4/4) extremely cobbly loam, dark brown (10YR 3/3) moist; moderate coarse subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; 25 percent gravel, 30 percent cobbles, and 10 percent stones; neutral (pH 7.2); gradual wavy boundary.

Bt1—10 to 22 inches; yellowish brown (10YR 5/6) extremely stony loam, dark



yellowish brown (10YR 4/4) moist; weak medium prismatic structure parting to strong medium subangular blocky; very hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common fine tubular pores; common distinct clay films on faces of peds; 20 percent gravel, 20 percent cobbles, and 25 percent stones; neutral (pH 7.2); gradual wavy boundary.

Bt2—22 to 38 inches; yellowish brown (10YR 5/6) extremely stony loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common fine tubular pores; common faint clay films on faces of peds; 25 percent gravel, 20 percent cobbles, and 25 percent stones; pockets of weathering rock fragments that are strong brown (7.5YR 5/6, 5/8, and 4/6) moist; neutral (pH 7.2); gradual irregular boundary.

BC—38 to 54 inches; brownish yellow (10YR 6/6) extremely stony sandy loam, dark yellowish brown (10YR 4/6) moist; weak fine subangular blocky structure; slightly hard, friable, sticky and plastic; few very fine and fine roots; few faint clay films on rock fragments; 15 percent gravel, 25 percent cobbles, and 25 percent stones; neutral (pH 7.2); abrupt irregular boundary.

R—54 inches; andesite.

### ***Range in Characteristics***

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Thickness of mollic epipedon:* 10 to 14 inches

*Depth to argillic horizon:* 10 to 14 inches

#### *A1 horizon:*

Hue—10YR

Value—3 to 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—5 to 15 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

#### *A2 horizon:*

Hue—10YR

Value—3 to 5 dry, 2 or 3 moist

Chroma—3 or 4 dry or moist

Texture—extremely cobbly loam

Content of rock fragments—60 to 70 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

#### *Bt horizon:*

Hue—10YR

Value—3 to 5 dry, 2 to 4 moist

Chroma—3 to 6 dry or moist

Texture—extremely stony loam

Content of rock fragments—60 to 70 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

#### *BC horizon:*

Hue—10YR

Value—4 to 6 dry, 4 or 5 moist

Chroma—4 to 6 dry or moist

Texture—extremely stony sandy loam

Content of rock fragments—60 to 70 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

## ***Huddle Series***

*Depth class:* Deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Volcanic ash and cinders over basalt

*Slope range:* 2 to 12 percent

*Elevation:* 4,800 to 6,000 feet

*Mean annual precipitation:* 12 to 16 inches

*Mean annual air temperature:* 40 to 45 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Medial, frigid Typic Vitrixerands

### ***Typical Pedon***

Huddle gravelly loam in an area of Huddle-Moonville complex, 2 to 12 percent slopes, Butte County, Idaho, about 11 miles west and 0.5 mile south of Arco, Idaho; about 1,650 feet south and 2,250 feet east of the northwest corner of section 27, T. 2 N., R. 26 E.

- A—0 to 2 inches; brown (10YR 4/3) gravelly loam, very dark brown (10YR 2/2) moist; weak thin and medium platy structure parting to moderate medium granular; soft, very friable, nonsticky and nonplastic; many very fine and fine, common medium, and few coarse roots; common very fine irregular pores and many very fine tubular pores; 20 percent cinders; slightly alkaline (pH 7.6); abrupt smooth boundary.
- Bw1—2 to 7 inches; brown (10YR 4/3) loam, very dark brown (10YR 2/2) moist; weak medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine, common medium, and few coarse roots; many very fine irregular pores and few fine tubular pores; 10 percent cinders; slightly alkaline (pH 7.6); clear smooth boundary.
- Bw2—7 to 19 inches; yellowish brown (10YR 5/4) loam, dark yellowish brown (10YR 3/4) moist; weak medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; many very fine irregular pores and few fine tubular pores; 10 percent cinders; slightly alkaline (pH 7.6); abrupt wavy boundary.
- Bk1—19 to 39 inches; light yellowish brown (10YR 6/4) loam, dark yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; many very fine irregular pores and many very fine and fine tubular pores; 5 percent cinders; strongly effervescent; moderately alkaline (pH 7.9); abrupt irregular boundary.
- Bk2—39 to 50 inches; very pale brown (10YR 8/3) loam, light yellowish brown (10YR 6/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few fine roots; common very fine and fine tubular pores; 5 percent cinders and 5 percent cobbles; violently effervescent; moderately alkaline (pH 7.9); abrupt irregular boundary.
- 2R—50 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Depth to calcic horizon:* 11 to 22 inches

*Thickness of andic soil properties:* 40 to 60 inches

*A horizon:*

Hue—10YR

Value—3 to 5 dry, 2 to 4 moist

Chroma—2 to 4 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 25 percent cinders

Reaction—slightly alkaline

*Bw horizon:*

Hue—10YR

Value—5 or 6 dry, 2 or 3 moist

Chroma—2 to 4 dry or moist

Texture—loam

Content of rock fragments—5 to 15 percent cinders

Reaction—slightly alkaline

*Bk horizon:*

Hue—10YR

Value—6 to 8 dry, 4 to 6 moist

Chroma—3 or 4 dry or moist

Texture—loam

Content of rock fragments—5 to 15 percent cinders and cobbles

Calcium carbonate equivalent—15 to 35 percent

Reaction—slightly alkaline or moderately alkaline

***Hutchley Series****Depth class:* Shallow*Drainage class:* Well drained*Landscape:* Mountains*Landform:* Ridges*Parent material:* Slope alluvium and/or colluvium over latite, andesite, and quartz-monzonite*Slope range:* 15 to 35 percent*Elevation:* 6,000 to 7,500 feet*Mean annual precipitation:* 12 to 16 inches*Mean annual air temperature:* 37 to 43 degrees F*Frost-free period:* 45 to 80 days*Taxonomic class:* Loamy-skeletal, mixed, frigid Lithic Argixerolls***Typical Pedon***

Hutchley gravelly loam in an area of Howcan-Zeebar-Hutchley association, 15 to 60 percent slopes, Butte County, Idaho, about 12 miles northwest of Arco, Idaho; about 600 feet north and 600 feet east of the southwest corner of section 18, T. 4 N., R. 25 E.

A—0 to 4 inches; dark grayish brown (10YR 4/2) gravelly loam, very dark brown (10YR 2/2) moist; weak fine granular structure; slightly hard, friable, nonsticky and slightly plastic; common very fine and fine roots; many very fine irregular pores; 20 percent gravel, 10 percent cobbles, and 3 percent stones; neutral (pH 7.2); clear smooth boundary.

Bt—4 to 11 inches; brown (10YR 5/3) very cobbly clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; very hard, friable, slightly sticky and slightly plastic; many very fine and fine and few medium roots; common fine

tubular pores; few faint clay films on faces of peds; 20 percent gravel, 20 percent cobbles, and 1 percent stones; neutral (pH 7.2); clear wavy boundary.  
R—11 inches; andesite.

### ***Range in Characteristics***

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Thickness of mollic epipedon:* 10 to 20 inches

*Depth to argillic horizon:* 1 to 15 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—20 to 35 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

*Bt horizon:*

Hue—10YR

Value—4 or 5 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—very cobbly clay loam

Content of rock fragments—35 to 55 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

## ***Ike Series***

*Depth class:* Shallow

*Drainage class:* Well drained

*Landscape:* Foothills, mountains

*Landform:* Hillslopes, mountain slopes, ridges

*Parent material:* Colluvium derived from limestone

*Slope range:* 10 to 90 percent

*Elevation:* 5,000 to 8,000 feet

*Mean annual precipitation:* 8 to 12 inches

*Mean annual air temperature:* 42 to 45 degrees F

*Frost-free period:* 70 to 80 days

*Taxonomic class:* Loamy-skeletal, carbonatic, frigid Lithic Xeric Haplocalcids

### ***Typical Pedon***

Ike gravelly loam in an area of Ike-Rock outcrop-Jimbee association, 10 to 80 percent slopes, Butte County, Idaho, about 3 miles southwest of Clyde, Idaho; about 1,250 feet south and 1,500 feet west of the northeast corner of section 24, T. 9 N., R. 27 E.

A—0 to 2 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine roots; few very fine tubular pores; 25 percent gravel, 5 percent cobbles, and 2 percent stones; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bkq1—2 to 7 inches; very pale brown (10YR 7/3) very gravelly silt loam, yellowish brown (10YR 5/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 40 percent gravel, 15 percent cobbles, and 2 percent stones; violently effervescent; common coatings of

calcium carbonate 1 to 3 millimeters thick and common coatings of silica 3 to 5 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); clear wavy boundary.

- Bkq2—7 to 13 inches; very pale brown (10YR 7/3) extremely cobbly silt loam, yellowish brown (10YR 5/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine and common medium roots; common very fine tubular pores; 30 percent gravel, 30 percent cobbles, and 3 percent stones; violently effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick and common coatings of silica 2 to 4 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); clear wavy boundary.
- Bkq3—13 to 18 inches; pale yellow (2.5Y 7/4) extremely cobbly silt loam, light olive brown (2.5Y 5/4) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine, fine, and medium roots; common very fine tubular pores; 30 percent gravel, 35 percent cobbles, and 5 percent stones; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); abrupt wavy boundary.
- R—18 inches; limestone.

### ***Range in Characteristics***

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Depth to calcic horizon:* 2 to 7 inches

*A horizon:*

Hue—10YR

Value—5 to 7 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—20 to 35 percent gravel, cobbles, and stones

Calcium carbonate equivalent—25 to 35 percent

Reaction—slightly alkaline or moderately alkaline

*Bkq1 horizon:*

Hue—10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly silt loam

Content of rock fragments—35 to 60 percent gravel, cobbles, and stones

Calcium carbonate equivalent—40 to 60 percent

Reaction—moderately alkaline or strongly alkaline

*Bkq2 and Bkq3 horizons:*

Hue—10YR or 2.5Y

Value—6 to 8 dry, 4 to 7 moist

Chroma—2 to 4 dry or moist

Texture—extremely cobbly silt loam

Content of rock fragments—60 to 90 percent gravel, cobbles, and stones

Calcium carbonate equivalent—40 to 60 percent

Reaction—moderately alkaline or strongly alkaline

### ***Inel Series***

*Depth class:* Shallow

*Drainage class:* Well drained

*Landscape:* Foothills

*Landform:* Hillslopes

*Parent material:* Colluvium derived from limestone

*Slope range:* 10 to 45 percent

*Elevation:* 4,800 to 6,500 feet

*Mean annual precipitation:* 7 to 9 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Loamy-skeletal, carbonatic, frigid Lithic Haplocalcids

### ***Typical Pedon***

Inel gravelly silt loam in an area of Inel-Slide-Rock outcrop complex, 10 to 45 percent slopes, Butte County, Idaho, about 10 miles east of Howe, Idaho; about 700 feet south and 750 feet west of the northeast corner of section 4, T. 6 N., R. 29 E.

A—0 to 3 inches; pale brown (10YR 6/3) gravelly silt loam, dark brown (10YR 3/3) moist; weak thin platy structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; 20 percent gravel, 5 percent cobbles, and 2 percent stones; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bw—3 to 9 inches; pale brown (10YR 6/3) gravelly silt loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and few medium roots; common very fine tubular pores; 10 percent gravel, 5 percent cobbles, and 3 percent stones; strongly effervescent; strongly alkaline (pH 8.5); clear smooth boundary.

Bkq1—9 to 13 inches; very pale brown (10YR 7/3) very cobbly loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 15 percent gravel, 15 percent cobbles, and 5 percent stones; violently effervescent matrix; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); gradual wavy boundary.

Bkq2—13 to 19 inches; very pale brown (10YR 7/3) very cobbly loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 15 percent gravel, 20 percent cobbles, and 5 percent stones; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); gradual wavy boundary.

R—19 inches; limestone.

### ***Range in Characteristics***

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Depth to calcic horizon:* 7 to 10 inches

*A horizon:*

Hue—10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam or gravelly silt loam

Content of rock fragments—15 to 30 percent gravel, cobbles, and stones

Calcium carbonate equivalent—20 to 30 percent

Reaction—slightly alkaline or moderately alkaline

*Bw horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—3 or 4 dry or moist

Texture—gravelly silt loam or very gravelly loam

Content of rock fragments—15 to 40 percent gravel, cobbles, and stones

Calcium carbonate equivalent—30 to 40 percent

Reaction—moderately alkaline or strongly alkaline

*Bkq horizon:*

Hue—10YR

Value—6 to 8 dry, 4 to 7 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly sandy loam or very cobbly loam

Content of rock fragments—35 to 50 percent gravel, cobbles, and stones

Calcium carbonate equivalent—40 to 50 percent

Reaction—moderately alkaline or strongly alkaline

***Jimbee Series****Depth class:* Shallow*Drainage class:* Well drained*Landscape:* Foothills, mountains*Landform:* Hillslopes, mountain slopes, ridges*Parent material:* Colluvium and slope alluvium derived from limestone*Slope range:* 10 to 90 percent*Elevation:* 5,500 to 9,000 feet*Mean annual precipitation:* 11 to 26 inches*Mean annual air temperature:* 32 to 40 degrees F*Frost-free period:* 30 to 65 days*Taxonomic class:* Loamy-skeletal, carbonatic Lithic Cryoborolls***Typical Pedon***

Jimbee gravelly loam in an area of Jimbee-Skibo-Ike association, 20 to 60 percent slopes, Butte County, Idaho, about 3 miles west of Clyde, Idaho; about 600 feet north and 2,600 feet east of the southwest corner of section 1, T. 9 N., R. 26 E.

A—0 to 5 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine and medium roots; few very fine tubular pores; 10 percent gravel and 5 percent stones; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bkq1—5 to 11 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, common fine, and few medium roots; common very fine tubular pores; 30 percent gravel, 5 percent cobbles, and 5 percent stones; violently effervescent; common coatings of calcium carbonate 1 to 3 millimeters thick and common coatings of silica 3 to 5 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); clear wavy boundary.

Bkq2—11 to 17 inches; very pale brown (10YR 7/3) very gravelly loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; 30 percent gravel, 10 percent cobbles, and 15 percent stones; violently



effervescent; common coatings of calcium carbonate and silica 1 to 3 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); clear wavy boundary.

R—17 inches; limestone.

### ***Range in Characteristics***

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Thickness of mollic epipedon:* 7 to 9 inches

*Depth to calcic horizon:* 2 to 7 inches

*A horizon:*

Hue—10YR

Value—3 to 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 35 percent gravel, cobbles, and stones

Calcium carbonate equivalent—25 to 55 percent

Reaction—moderately alkaline

*Bkq horizon:*

Hue—10YR

Value—5 to 7 dry, 3 to 7 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly loam

Content of rock fragments—35 to 59 percent gravel, cobbles, and stones

Calcium carbonate equivalent—40 to 60 percent

Reaction—moderately alkaline or strongly alkaline

## ***Jonda Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Foothills

*Landform:* Ridges

*Parent material:* Colluvium and slope alluvium

*Slope range:* 5 to 45 percent

*Elevation:* 6,000 to 7,500 feet

*Mean annual precipitation:* 14 to 16 inches

*Mean annual air temperature:* 36 to 41 degrees F

*Frost-free period:* 40 to 60 days

*Taxonomic class:* Loamy-skeletal, mixed Mollic Cryoboralfs

### ***Typical Pedon***

Jonda gravelly loam in an area of Hagenbarth-Howcan-Jonda association, 5 to 45 percent slopes, Butte County, Idaho, about  $\frac{2}{3}$  mile north of Reliance Mine; about 1,300 feet south and 2,800 feet west of the northeast corner of section 10, T. 3 N., R. 24 E.

A—0 to 4 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 30 percent gravel, 3 percent cobbles, and 1 percent stones; neutral (pH 7.2); clear smooth boundary.

Bt1—4 to 16 inches; brownish yellow (10YR 6/6) extremely cobbly clay loam, dark

yellowish brown (10YR 4/6) moist; moderate fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine and fine roots; common fine irregular pores; common faint clay films on faces of peds; 25 percent gravel, 50 percent cobbles, and 1 percent stones; slightly alkaline (pH 7.6); clear wavy boundary.

Bt2—16 to 21 inches; yellow (10YR 7/6) extremely cobbly clay loam, brownish yellow (10YR 6/6) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and moderately plastic; common very fine roots; common very fine tubular pores; few faint clay films on surfaces of rock fragments and faces of peds; 30 percent gravel, 50 percent cobbles, and 1 percent stones; slightly alkaline (pH 7.6); clear wavy boundary.

Bk1—21 to 40 inches; yellowish brown (10YR 5/6) extremely cobbly sandy loam, yellowish brown (10YR 5/8) moist; weak medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; 30 percent gravel, 50 percent cobbles, and 1 percent stones; slightly effervescent; pockets of weathering rock fragments; moderately alkaline (pH 8.2); clear irregular boundary.

Bk2—40 to 60 inches; very pale brown (10YR 8/4) extremely cobbly sandy loam, light yellowish brown (10YR 6/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; few very fine roots; 30 percent gravel, 50 percent cobbles, and 1 percent stones; slightly effervescent; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to argillic horizon:* 3 to 6 inches

*Depth to secondary carbonates:* 10 to 21 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—20 to 35 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

#### *Bt horizon:*

Hue—10YR

Value—6 or 7 dry, 4 to 6 moist

Chroma—2 to 6 dry or moist

Texture—very gravelly clay loam, very cobbly clay loam, extremely gravelly clay loam, or extremely cobbly clay loam

Content of rock fragments—50 to 85 percent gravel, cobbles, and stones

Calcium carbonate equivalent—0 to 10 percent

Reaction—slightly alkaline

#### *Bk horizon:*

Hue—10YR

Value—5 to 8 dry, 5 or 6 moist

Chroma—4 to 8 dry or moist

Texture—extremely gravelly loam, extremely gravelly sandy loam, extremely cobbly loam, or extremely cobbly sandy loam

Content of rock fragments—60 to 90 percent gravel, cobbles, and stones

Calcium carbonate equivalent—5 to 20 percent

Reaction—moderately alkaline

## ***Justesen Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains, foothills

*Landform:* Fan remnants, hillslopes

*Parent material:* Mixed alluvium

*Slope range:* 1 to 20 percent

*Elevation:* 5,500 to 7,000 feet

*Mean annual precipitation:* 12 to 16 inches

*Mean annual air temperature:* 40 to 45 degrees F

*Frost-free period:* 60 to 80 days

*Taxonomic class:* Fine-loamy, mixed, frigid Calcic Argixerolls

### ***Typical Pedon***

Justesen loam in an area of Justesen-Drage complex, 1 to 20 percent slopes, Butte County, Idaho, about 5 miles north and 4 miles east of Arco, Idaho; about 1,150 feet north and 2,350 feet east of the southwest corner of section 3, T. 4 N., R. 27 E.

- A1—0 to 3 inches; dark grayish brown (10YR 4/2) loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, and medium roots; common very fine tubular pores; neutral (pH 7.0); clear smooth boundary.
- A2—3 to 10 inches; dark grayish brown (10YR 4/2) loam, very dark brown (10YR 2/2) moist; strong medium granular structure parting to moderate fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and common medium and coarse roots; common very fine tubular pores; neutral (pH 7.0); clear smooth boundary.
- Bt1—10 to 16 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine and fine and common medium and coarse roots; common very fine tubular pores; common faint clay films on faces of peds and in pores; neutral (pH 7.2); clear wavy boundary.
- Bt2—16 to 25 inches; pale brown (10YR 6/3) loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine and fine and few medium and coarse roots; common very fine tubular pores; few faint clay films on faces of peds and in pores; 2 percent gravel; neutral (pH 7.2); clear wavy boundary.
- Bk1—25 to 43 inches; pale brown (10YR 6/3) fine sandy loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; common very fine and fine roots; common fine tubular pores; 2 percent gravel; many threads and masses of calcium carbonate; moderately effervescent; moderately alkaline (pH 8.2); clear smooth boundary.
- Bk2—43 to 60 inches; pale brown (10YR 6/3) fine sandy loam, brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and nonplastic; few very fine roots; few fine tubular pores; 2 percent gravel; many threads and masses of calcium carbonate; moderately effervescent; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 10 to 19 inches

*Depth to argillic horizon:* 4 to 15 inches

*Depth to calcic horizon:* 24 to 44 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 10 percent gravel

Reaction—neutral

*Bt horizon:*

Hue—10YR

Value—4 to 6 dry, 3 to 5 moist

Chroma—2 to 4 dry or moist

Texture—loam or silty clay loam

Content of rock fragments—0 to 10 percent gravel

Reaction—neutral to moderately alkaline

*Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 to 4 dry or moist

Texture—loam or fine sandy loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—15 to 35 percent

Reaction—moderately alkaline

## ***Ketchum Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Mountains

*Landform:* Mountain slopes

*Parent material:* Colluvium

*Slope range:* 30 to 60 percent

*Elevation:* 6,500 to 8,500 feet

*Mean annual precipitation:* 18 to 22 inches

*Mean annual air temperature:* 36 to 40 degrees F

*Frost-free period:* 50 to 60 days

*Taxonomic class:* Loamy-skeletal, mixed Typic Cryochrepts

### ***Typical Pedon***

Ketchum gravelly loam in an area of Ketchum-Povey complex, 30 to 60 percent slopes, Butte County, Idaho, about 1.2 miles northwest of St. Louis Mine; about 850 feet south and 2,450 feet east of the northwest corner of section 8, T. 2 N., R. 24 E.

Oi—0 to 1 inch; slightly decomposed plant material.

A1—1 to 5 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; many very fine tubular pores; 15 percent gravel and 5 percent cobbles; neutral (pH 6.7); clear smooth boundary.

- A2—5 to 18 inches; pale brown (10YR 6/3) very gravelly loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; common very fine irregular pores; 35 percent gravel and 3 percent cobbles; neutral (pH 6.7); gradual wavy boundary.
- Bw—18 to 30 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine and fine and common medium and coarse roots; common very fine irregular pores; 50 percent gravel and 5 percent cobbles; neutral (pH 6.7); clear wavy boundary.
- Bq—30 to 37 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine and fine and common medium roots; many very fine irregular pores; 50 percent gravel and 5 percent cobbles; very few silica pendants 1 millimeter thick on underside of rock fragments; neutral (pH 6.7); clear wavy boundary.
- Bkq—37 to 50 inches; pale brown (10YR 6/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine and few medium roots; many very fine irregular pores; 50 percent gravel and 5 percent cobbles; very few coatings of calcium carbonate and silica 1 millimeter thick on underside of rock fragments; neutral (pH 6.7); gradual wavy boundary.
- C—50 to 64 inches; pale brown (10YR 6/3) extremely gravelly coarse sandy loam, dark brown (10YR 3/3) moist; single grain; loose, nonsticky and nonplastic; many very fine and fine and few medium roots; common very fine tubular pores; 75 percent gravel and 5 percent cobbles; weakly effervescent; very few coatings of calcium carbonate and silica 1 millimeter thick on underside of rock fragments; neutral (pH 7.0).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to secondary carbonates:* 30 to 50 inches

#### *A1 horizon:*

Hue—10YR

Value—4 to 6 dry, 2 to 4 moist

Chroma—2 to 4 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 35 percent gravel and cobbles

Reaction—slightly acid or neutral

#### *A2 horizon:*

Hue—10YR

Value—4 to 6 dry, 2 to 4 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly loam

Content of rock fragments—35 to 50 percent gravel and cobbles

Reaction—slightly acid or neutral

#### *Bw, Bq, and Bkq horizons:*

Hue—10YR

Value—6 or 7 dry, 3 or 4 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly sandy loam

Content of rock fragments—35 to 60 percent gravel and cobbles

Calcium carbonate equivalent—0 to 1 percent

Reaction—slightly acid or neutral

*C horizon:*

Hue—10YR

Value—6 or 7 dry, 3 to 5 moist

Chroma—2 or 3 dry or moist

Texture—extremely gravelly coarse sandy loam

Content of rock fragments—60 to 80 percent gravel and cobbles

Calcium carbonate equivalent—1 to 5 percent

Reaction—neutral or slightly alkaline

## ***Kimama Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Lava plains

*Landform:* Depressions, drainageways

*Parent material:* Mixed alluvium and loess

*Slope range:* 0 to 2 percent

*Elevation:* 4,500 to 4,700 feet

*Mean annual precipitation:* 8 to 10 inches

*Mean annual air temperature:* 47 to 49 degrees F

*Frost-free period:* 100 to 120 days

*Taxonomic class:* Fine-silty, mixed, mesic Aridic Calcic Argixerolls

### ***Typical Pedon***

Kimama silt loam, 0 to 2 percent slopes, Butte County, Idaho, about 6 miles east of Coffee Point; about 1,310 feet north and 2,300 feet west of the southeast corner of section 21, T. 3 S., R. 31 E.

A1—0 to 5 inches; brown (10YR 5/3) silt loam, dark brown (10YR 3/3) moist; strong medium platy structure; soft, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine tubular pores; neutral (pH 7.2); abrupt wavy boundary.

A2—5 to 8 inches; brown (10YR 5/3) silt loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; common very fine and few medium roots; few fine tubular pores; neutral (pH 7.2); clear smooth boundary.

Bt1—8 to 12 inches; yellowish brown (10YR 5/4) silt loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine and few medium roots; common very fine and few fine tubular pores; many faint clay films bridging sand grains; neutral (pH 7.2); gradual smooth boundary.

Bt2—12 to 19 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine and few fine tubular pores; many distinct clay films on faces of pedis; neutral (pH 7.2); clear smooth boundary.

Bt3—19 to 25 inches; pale brown (10YR 6/3) silt loam, dark grayish brown (10YR 4/2) moist; moderate fine prismatic structure parting to moderate medium subangular blocky; hard, firm, moderately sticky and slightly plastic; few very fine roots; many

very fine and few fine tubular pores; many faint clay films on faces of peds; neutral (pH 7.2); clear smooth boundary.

Bt4—25 to 34 inches; pale brown (10YR 6/3) silt loam, dark grayish brown (10YR 4/2) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine and few fine tubular pores; many faint clay films on faces of peds; neutral (pH 7.2); gradual smooth boundary.

Btk—34 to 50 inches; pale brown (10YR 6/3) silt loam, grayish brown (10YR 5/2) moist; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine and few fine tubular pores; common faint clay films bridging sand grains; common calcium carbonate threads; strongly effervescent; slightly alkaline (pH 7.5); gradual smooth boundary.

Bk—50 to 60 inches; pale brown (10YR 6/3) silt loam, brown (10YR 5/3) moist; massive; slightly hard, friable, slightly sticky and nonplastic; few very fine roots; common very fine tubular and irregular pores; strongly effervescent; slightly alkaline (pH 7.5).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 7 to 18 inches

*Depth to argillic horizon:* 5 to 18 inches

*Depth to calcic horizon:* 20 to 43 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 moist

Texture—silt loam

Reaction—neutral or slightly alkaline

*Bt horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 to 4 dry or moist

Texture—silt loam

Reaction—neutral or slightly alkaline

*Btk and Bk horizons:*

Hue—10YR

Value—5 to 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Calcium carbonate equivalent—15 to 25 percent

Reaction—slightly alkaline or moderately alkaline

### ***Klug Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Foothills, mountains

*Landform:* Hillslopes, mountain slopes

*Parent material:* Colluvium derived from granite and quartzite

*Slope range:* 5 to 60 percent

*Elevation:* 6,000 to 8,500 feet



*Mean annual precipitation:* 13 to 16 inches

*Mean annual air temperature:* 36 to 38 degrees F

*Frost-free period:* 50 to 60 days

*Taxonomic class:* Loamy-skeletal, mixed Typic Cryoborolls

### ***Typical Pedon***

Klug very gravelly loam in an area of Klug-Parvis complex, 20 to 60 percent slopes, Butte County, Idaho, about 1 mile northeast of Timbered Dome and 12 miles west of Arco, Idaho; about 2,500 feet north and 1,300 feet east of the southwest corner of section 31, T. 4 N., R. 25 E.

- A—0 to 13 inches; brown (10YR 5/3) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine tubular pores; 30 percent gravel and 5 percent cobbles; neutral (pH 7.0); clear smooth boundary.
- Bw1—13 to 24 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 35 percent gravel and 10 percent cobbles; neutral (pH 7.2); gradual wavy boundary.
- Bw2—24 to 37 inches; yellowish brown (10YR 5/4) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 45 percent gravel and 15 percent cobbles; neutral (pH 7.2); clear wavy boundary.
- C—37 to 60 inches; pale brown (10YR 6/3) extremely gravelly loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; 45 percent gravel and 15 percent cobbles; neutral (pH 7.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 8 to 14 inches

#### *A horizon:*

Hue—10YR

Value—3 to 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly loam

Content of rock fragments—35 to 50 percent gravel and cobbles

Reaction—neutral

#### *Bw horizon:*

Hue—10YR

Value—4 to 6 dry, 3 to 5 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly loam or extremely gravelly loam

Content of rock fragments—35 to 80 percent gravel and cobbles

Reaction—neutral or slightly alkaline

#### *C horizon:*

Hue—10YR

Value—5 to 7 dry, 4 or 5 moist

Chroma—2 to 4 dry or moist

Texture—extremely gravelly loam  
Content of rock fragments—60 to 80 percent gravel and cobbles  
Reaction—neutral or slightly alkaline

### ***Lag Series***

*Depth class:* Very deep  
*Drainage class:* Well drained  
*Landscape:* Mountains  
*Landform:* Mountain slopes  
*Parent material:* Colluvium  
*Slope range:* 40 to 70 percent  
*Elevation:* 6,500 to 9,300 feet  
*Mean annual precipitation:* 20 to 24 inches  
*Mean annual air temperature:* 35 to 38 degrees F  
*Frost-free period:* 40 to 70 days  
*Taxonomic class:* Loamy-skeletal, mixed Typic Cryoborolls

#### ***Typical Pedon***

Lag gravelly loam, 40 to 70 percent slopes, Butte County, Idaho, on Hawley Mountain; about 200 feet south and 2,300 feet east of the northwest corner of section 15, T. 9 N., R. 26 E.

Oi—0 to 1 inch; slightly decomposed plant material.

A1—1 to 5 inches; brown (10YR 4/3) gravelly loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; many very fine tubular pores; 15 percent gravel and 3 percent cobbles; neutral (pH 7.0); clear smooth boundary.

A2—5 to 14 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine, fine, and medium roots; many very fine tubular pores; 25 percent gravel and 5 percent cobbles; neutral (pH 7.0); clear wavy boundary.

Bw1—14 to 25 inches; pinkish gray (5YR 6/2) very gravelly loam, reddish brown (5YR 5/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and common fine and medium roots; common very fine tubular pores; 45 percent gravel and 10 percent flagstones; neutral (pH 7.0); gradual wavy boundary.

Bw2—25 to 41 inches; pink (5YR 7/3) extremely gravelly sandy loam, reddish brown (5YR 5/3) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; common very fine, fine, and medium roots; 50 percent gravel and 15 percent flagstones; neutral (pH 7.0); gradual wavy boundary.

Bw3—41 to 60 inches; pink (5YR 8/3) extremely gravelly sandy loam, light reddish brown (5YR 6/3) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; few very fine, fine, and medium roots; 55 percent gravel and 10 percent flagstones; neutral (pH 7.0).

#### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches  
*Thickness of mollic epipedon:* 7 to 15 inches

*A horizon:*

Hue—7.5YR or 10YR

Value—3 to 5 dry, 2 or 3 moist

Chroma—1 to 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 35 percent gravel and cobbles

Reaction—slightly acid or neutral

*Bw horizon:*

Hue—5YR or 7.5YR

Value—6 to 8 dry, 4 to 6 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly loam or extremely gravelly sandy loam

Content of rock fragments—35 to 85 percent gravel and flagstones

Reaction—slightly acid or neutral

***Lavacreek Series***

*Depth class:* Deep

*Drainage class:* Well drained

*Landscape:* Mountains

*Landform:* Mountain slopes

*Parent material:* Volcanic ash and eolian deposits mixed with colluvium derived from sandstone, conglomerate, siltstone, and quartzite

*Slope range:* 15 to 60 percent

*Elevation:* 6,000 to 9,300 feet

*Mean annual precipitation:* 16 to 24 inches

*Mean annual air temperature:* 36 to 41 degrees F

*Frost-free period:* 30 to 60 days

*Taxonomic class:* Medial-skeletal Xeric Vitricryands

***Typical Pedon***

Lavacreek very cobbly silt loam in an area of Lavacreek-Dollarhide-Grassycone complex, 30 to 60 percent slopes, Butte County, Idaho, about 1.6 miles west of Cave Rock; about 1,850 feet south and 2,000 feet east of the northwest corner of section 26, T. 3 N., R. 23 E.

A—0 to 10 inches; brown (10YR 5/3) very cobbly silt loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and nonplastic; many very fine and fine roots; common very fine irregular pores; 25 percent gravel and 20 percent cobbles; neutral (pH 6.7); clear smooth boundary.

Bw1—10 to 19 inches; pale brown (10YR 6/3) very cobbly silt loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; many very fine and fine and common medium roots; common very fine irregular pores; 30 percent gravel and 25 percent cobbles; neutral (pH 6.7); gradual wavy boundary.

Bw2—19 to 36 inches; yellowish brown (10YR 5/4) extremely cobbly loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; many very fine and fine and common medium roots; common very fine irregular pores; 30 percent gravel and 35 percent cobbles; slightly acid (pH 6.5); clear wavy boundary.

- BC—36 to 42 inches; pale brown (10YR 6/3) extremely cobbly sandy loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine and common fine and medium roots; common very fine tubular pores; 40 percent gravel and 40 percent cobbles; few discontinuous bleached sand and silt grains on faces of peds; slightly acid (pH 6.5); gradual wavy boundary.
- C—42 to 59 inches; pale brown (10YR 6/3) extremely cobbly sandy loam, dark brown (10YR 3/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; common very fine, fine, and medium roots; common very fine tubular pores; 40 percent gravel and 40 percent cobbles; slightly acid (pH 6.5); diffuse irregular boundary.
- 2R—59 inches; quartzite.

### ***Range in Characteristics***

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Thickness of mollic epipedon:* 10 to 23 inches

*Thickness of andic soil properties:* 40 to 60 inches

#### *A horizon:*

Hue—10YR

Value—3 to 5 dry, 2 or 3 moist

Chroma—2 to 4 dry or moist

Texture—very cobbly silt loam

Content of rock fragments—35 to 55 percent gravel and cobbles

Reaction—slightly acid or neutral

#### *Bw horizon:*

Hue—10YR

Value—4 to 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—very cobbly silt loam or extremely cobbly loam

Content of rock fragments—35 to 65 percent gravel and cobbles

Reaction—moderately acid to neutral

#### *BC and C horizons:*

Hue—10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—3 or 4 dry or moist

Texture—extremely cobbly sandy loam

Content of rock fragments—60 to 80 percent gravel and cobbles

Reaction—moderately acid to neutral

## ***Leatherman Series***

*Depth class:* Shallow to a duripan

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Alluvium derived from limestone

*Slope range:* 2 to 25 percent

*Elevation:* 6,300 to 8,000 feet

*Mean annual precipitation:* 9 to 16 inches

*Mean annual air temperature:* 36 to 42 degrees F

*Frost-free period:* 40 to 60 days

*Taxonomic class:* Loamy-skeletal, carbonatic, shallow Duric Xeric Petrocryids

### ***Typical Pedon***

Leatherman gravelly loam in an area of Leatherman-Bluedome complex, 2 to 8 percent slopes, Butte County, Idaho, about 6 miles northwest of Clyde, Idaho; about 750 feet south and 1,000 feet west of the northeast corner of section 18, T. 10 N., R. 26 E.

- A1—0 to 3 inches; light brownish gray (10YR 6/2) gravelly loam, brown (10YR 4/3) moist; weak thin platy structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine roots; few very fine tubular pores; 20 percent gravel and 1 percent cobbles; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.
- A2—3 to 8 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; 35 percent gravel and 1 percent cobbles; strongly effervescent; strongly alkaline (pH 8.5); clear wavy boundary.
- Bk—8 to 12 inches; light brownish gray (10YR 6/2) very gravelly loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 40 percent gravel and 2 percent cobbles; strongly effervescent; few coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; strongly alkaline (pH 8.5); abrupt smooth boundary.
- 2Bkqm—12 to 17 inches; white (10YR 8/2) indurated duripan; continuous root mat 1 to 3 millimeters thick above duripan; 45 percent gravel and 2 percent cobbles; clear wavy boundary.
- 2Bkq1—17 to 25 inches; light brownish gray (10YR 6/2) extremely gravelly sandy loam, brown (10YR 4/3) moist; massive, weakly cemented in place; very hard, extremely firm, nonsticky and nonplastic; very few very fine roots; 60 percent gravel and 2 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 3 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); clear wavy boundary.
- 2Bkq2—25 to 60 inches; brown (10YR 5/3) extremely gravelly loamy coarse sand, dark grayish brown (10YR 4/2) moist; massive; hard, friable, nonsticky and nonplastic; very few very fine roots; 55 percent gravel and 10 percent cobbles; strongly effervescent; common coatings of calcium carbonate and silica 1 to 3 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature:* 9 to 20 inches to a duripan

*Depth to calcic horizon:* 3 to 8 inches

#### *A1 horizon:*

Hue—10YR

Value—5 or 6 dry, 3 to 5 moist

Chroma—2 to 4 dry or moist

Texture—gravelly loam

Content of rock fragments—20 to 35 percent gravel and cobbles

Calcium carbonate equivalent—10 to 25 percent

Reaction—slightly alkaline or moderately alkaline

#### *A2 horizon:*

Hue—10YR

Value—5 or 6 dry, 3 to 5 moist

Chroma—2 to 4 dry or moist

Texture—gravelly loam or very gravelly loam

Content of rock fragments—20 to 45 percent gravel and cobbles  
 Calcium carbonate equivalent—40 to 60 percent  
 Sodium adsorption ratio—5 to 15  
 Reaction—moderately alkaline or strongly alkaline

*Bk horizon:*

Hue—10YR  
 Value—5 or 6 dry, 3 or 4 moist  
 Chroma—2 or 3 dry or moist  
 Texture—very gravelly loam  
 Content of rock fragments—35 to 50 percent gravel and cobbles  
 Calcium carbonate equivalent—40 to 60 percent  
 Sodium adsorption ratio—5 to 15  
 Reaction—moderately alkaline or strongly alkaline

*2Bkqm horizon:*

Cementation—indurated

*2Bkq horizon:*

Hue—10YR  
 Value—5 to 7 dry, 3 to 5 moist  
 Chroma—2 or 3 dry or moist  
 Texture—extremely gravelly sandy loam or extremely gravelly loamy coarse sand  
 Content of rock fragments—60 to 85 percent gravel and cobbles  
 Calcium carbonate equivalent—40 to 50 percent  
 Sodium adsorption ratio—5 to 15  
 Reaction—moderately alkaline or strongly alkaline

## ***Lesbut Series***

*Depth class:* Very deep

*Drainage class:* Somewhat excessively drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Mixed alluvium

*Slope range:* 0 to 4 percent

*Elevation:* 5,000 to 5,600 feet

*Mean annual precipitation:* 11 to 13 inches

*Mean annual air temperature:* 38 to 42 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Sandy-skeletal, mixed, frigid Calcic Haploxerolls

### ***Typical Pedon***

Lesbut gravelly loam in an area of Darlington-Lesbut complex, 1 to 4 percent slopes, Butte County, Idaho, about 1.2 miles north of Moore, Idaho; about 1,200 feet north and 2,500 feet east of the southwest corner of section 16, T. 5 N., R. 26 E.

A—0 to 3 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; common very fine irregular pores; 15 percent gravel; neutral (pH 7.0); clear smooth boundary.

Bw1—3 to 7 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and very fine and few medium roots; common

very fine tubular pores; 15 percent gravel; neutral (pH 7.0); clear smooth boundary.

Bw2—7 to 13 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 15 percent gravel and 2 percent cobbles; neutral (pH 7.0); clear wavy boundary.

Bw3—13 to 19 inches; brown (10YR 5/3) very gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine, fine, and medium roots; common very fine tubular pores; 45 percent gravel and 5 percent cobbles; neutral (pH 7.2); gradual wavy boundary.

2Bkq1—19 to 41 inches; grayish brown (10YR 5/2) extremely gravelly loamy sand, very dark grayish brown (10YR 3/2) moist; single grain; loose, nonsticky and nonplastic; many very fine and common fine and medium roots; 55 percent gravel and 10 percent cobbles; common coatings of silica 1 to 2 millimeters thick on underside of rock fragments; slightly effervescent; slightly alkaline (pH 7.6); clear wavy boundary.

2Bkq2—41 to 60 inches; grayish brown (10YR 5/2) extremely gravelly loamy sand, very dark grayish brown (10YR 3/2) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; 70 percent gravel and 10 percent cobbles; common coatings of silica 1 to 2 millimeters thick on underside of rock fragments; slightly effervescent; slightly alkaline (pH 7.6).

### ***Range in Characteristics***

*Depth to restrictive feature (2Bkq horizon):* 10 to 20 inches to strongly contrasting textural stratification

*Thickness of mollic epipedon:* 10 to 18 inches

*Depth to secondary carbonates:* 10 to 19 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 30 percent gravel

Reaction—neutral

#### *Bw horizon:*

Hue—10YR

Value—4 to 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—gravelly loam or very gravelly sandy loam

Content of rock fragments—15 to 50 percent gravel and cobbles

Calcium carbonate equivalent—0 to 5 percent

Reaction—neutral or slightly alkaline

#### *2Bkq horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—extremely gravelly loamy sand, extremely gravelly loamy coarse sand, extremely gravelly sand, extremely gravelly coarse sand, extremely cobbly sand, or extremely cobbly coarse sand

Content of rock fragments—60 to 85 percent gravel and cobbles



Calcium carbonate equivalent—1 to 5 percent

Reaction—slightly alkaline

## ***Malm Series***

*Depth class:* Moderately deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Eolian deposits over basalt

*Slope range:* 2 to 8 percent

*Elevation:* 4,800 to 5,500 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 100 days

*Taxonomic class:* Coarse-loamy, mixed, frigid Xeric Haplocalcids

### ***Typical Pedon***

Malm fine sandy loam in an area of Malm-Bondfarm-Matheson complex, 2 to 8 percent slopes, Butte County, Idaho, about 2.5 miles southeast of Butte City, Idaho; about 2,350 feet north and 2,700 feet west of the southeast corner of section 13, T. 3 N., R. 27 E.

A—0 to 5 inches; brown (10YR 5/3) fine sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and slightly plastic; many very fine roots; few very fine vesicular pores; 5 percent gravel; moderately alkaline (pH 8.2); clear wavy boundary.

Bw—5 to 10 inches; brown (10YR 5/3) fine sandy loam, dark brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and slightly plastic; common very fine and few fine roots; common very fine tubular pores; 2 percent gravel; slightly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk1—10 to 15 inches; pale brown (10YR 6/3) fine sandy loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and slightly plastic; common very fine and fine and few medium roots; common very fine tubular pores; 5 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bk2—15 to 32 inches; pale brown (10YR 6/3) fine sandy loam, brown (10YR 4/3) moist; massive; hard, friable, nonsticky and slightly plastic; common very fine and few fine and medium roots; few very fine tubular pores; few coarse hard rounded nodules; cicada krotovinas; 10 percent gravel and 3 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk3—32 to 38 inches; very pale brown (10YR 8/2) gravelly fine sandy loam, pale brown (10YR 6/3) moist; massive; hard, friable, nonsticky and nonplastic; few very fine and fine roots; few very fine tubular pores; common coarse hard rounded nodules; cicada krotovinas; 15 percent gravel and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2R—38 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Depth to calcic horizon:* 10 to 20 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—fine sandy loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—0 to 10 percent

Reaction—slightly alkaline to strongly alkaline

*Bw horizon:*

Hue—10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—2 or 3 dry or moist

Texture—fine sandy loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—0 to 10 percent

Reaction—slightly alkaline to strongly alkaline

*Bk horizon:*

Hue—10YR

Value—6 to 8 dry, 3 to 6 moist

Chroma—2 or 3 dry or moist

Texture—fine sandy loam or gravelly fine sandy loam

Content of rock fragments—0 to 25 percent gravel and cobbles

Calcium carbonate equivalent—10 to 30 percent

Reaction—slightly alkaline to strongly alkaline

***Matheson Series****Depth class:* Deep*Drainage class:* Well drained*Landscape:* Plains*Landform:* Lava plains, fan remnants, mounds*Parent material:* Mixed alluvium and eolian deposits over basalt*Slope range:* 2 to 25 percent*Elevation:* 4,800 to 5,500 feet*Mean annual precipitation:* 7 to 11 inches*Mean annual air temperature:* 40 to 45 degrees F*Frost-free period:* 70 to 100 days*Taxonomic class:* Coarse-loamy, mixed, frigid Xeric Haplocalcids***Typical Pedon***

Matheson fine sandy loam in an area of Malm-Bondfarm-Matheson complex, 2 to 8 percent slopes, Butte County, Idaho, about 2.5 miles southeast of Butte City, Idaho; about 2,450 feet north and 2,400 feet west of the southeast corner of section 13, T. 3 N., R. 27 E.

A—0 to 6 inches; pale brown (10YR 6/3) fine sandy loam, dark brown (10YR 3/3) moist; weak thin platy structure; soft, very friable, nonsticky and slightly plastic; common very fine roots; many very fine irregular pores; 5 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bw—6 to 12 inches; pale brown (10YR 6/3) sandy loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and coarse roots; common very fine tubular

pores; 4 percent gravel; slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bk1—12 to 19 inches; pale brown (10YR 6/3) sandy loam, dark brown (10YR 3/3) moist; common fine subangular blocky structure; soft, very friable, nonsticky and slightly plastic; common very fine and few fine and medium roots; few very fine tubular pores; 10 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bk2—19 to 35 inches; light gray (10YR 7/3) sandy loam, brown (10YR 5/3) moist; moderate fine subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; few very fine, fine, and medium roots; few very fine tubular pores; few coarse hard rounded nodules; cicada krotovinas; 5 percent gravel; violently effervescent; moderately alkaline (pH 8.2); gradual wavy boundary.

Bk3—35 to 45 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; few very fine tubular pores; few coarse hard rounded nodules; cicada krotovinas; 20 percent gravel and 10 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); abrupt irregular boundary.

2R—45 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Depth to calcic horizon:* 11 to 20 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—fine sandy loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—1 to 10 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bw horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 to 4 dry or moist

Texture—sandy loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—5 to 15 percent

Reaction—moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 3 to 5 moist

Chroma—2 or 3 dry or moist

Texture—sandy loam or gravelly sandy loam

Content of rock fragments—0 to 30 percent gravel and cobbles

Calcium carbonate equivalent—15 to 25 percent

Reaction—moderately alkaline

## ***McCain Series***

*Depth class:* Moderately deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Alluvium and loess over basalt

*Slope range:* 1 to 4 percent

*Elevation:* 4,500 to 4,700 feet

*Mean annual precipitation:* 9 to 10 inches

*Mean annual air temperature:* 45 to 47 degrees F

*Frost-free period:* 100 to 120 days

*Taxonomic class:* Fine-silty, mixed, mesic Petronodic Calciargids

### ***Typical Pedon***

McCain loam in an area of McCain-Thornock complex, 1 to 4 percent slopes, Butte County, Idaho, about 6 miles east of Coffee Point; about 1,360 feet north and 1,250 feet west of the southeast corner of section 21, T. 3 S., R. 31 E.

A—0 to 4 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak very thick platy structure parting to moderate thin platy; soft, very friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; slightly alkaline (pH 7.6); abrupt smooth boundary.

AB—4 to 7 inches; yellowish brown (10YR 5/4) loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; slightly alkaline (pH 7.6); abrupt wavy boundary.

Bt—7 to 11 inches; yellowish brown (10YR 5/4) clay loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine roots; common very fine and few fine tubular pores; common faint clay films on faces of peds; moderately alkaline (pH 7.9); abrupt wavy boundary.

Btk—11 to 15 inches; pale brown (10YR 6/3) clay loam, brown (10YR 5/3) moist; weak coarse prismatic structure; hard, firm, moderately sticky and moderately plastic; common very fine roots; common very fine and few fine tubular pores; very few faint clay films on faces of peds; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bk1—15 to 23 inches; very pale brown (10YR 7/3) silt loam, pale brown (10YR 6/3) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine roots; common very fine tubular pores; 40 percent firm cicada nodules; violently effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

Bk2—23 to 28 inches; very pale brown (10YR 7/3) cobbly silt loam, pale brown (10YR 6/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; common very fine roots; few very fine and fine tubular pores; 15 percent gravel and 15 percent cobbles; 20 percent friable cicada nodules; violently effervescent; strongly alkaline (pH 8.5); abrupt wavy boundary.

2R—28 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Depth to argillic horizon:* 2 to 9 inches

*Depth to calcic horizon:* 12 to 25 inches

*A and AB horizons:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—loam  
 Content of rock fragments—0 to 10 percent gravel  
 Reaction—slightly alkaline

*Bt and Btk horizons:*

Hue—10YR  
 Value—4 to 7 dry, 4 or 5 moist  
 Chroma—3 or 4 dry or moist  
 Texture—clay loam  
 Content of rock fragments—0 to 10 percent gravel  
 Calcium carbonate equivalent—0 to 10 percent  
 Reaction—slightly alkaline or moderately alkaline

*Bk horizon:*

Hue—10YR  
 Value—6 to 8 dry, 4 to 7 moist  
 Chroma—2 to 4 dry or moist  
 Texture—silt loam or cobbly silt loam  
 Content of rock fragments—0 to 35 percent gravel and cobbles  
 Calcium carbonate equivalent—15 to 40 percent  
 Reaction—moderately alkaline or strongly alkaline

## **McCaleb Series**

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Terraces

*Parent material:* Alluvium derived from sedimentary rock

*Slope range:* 0 to 6 percent

*Elevation:* 4,700 to 6,500 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 60 to 80 days

*Taxonomic pedon:* Coarse-loamy, carbonatic, frigid Xeric Haplocalcids

### **Typical Pedon**

McCaleb loam in an area of Simeroi-Slide-McCaleb complex, 1 to 6 percent slopes, Butte County, Idaho, about 0.5 mile south of North Creek; about 750 feet south and 1,320 feet west of the northeast corner of section 15, T. 7 N., R. 28 E.

A—0 to 3 inches; pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; weak thick platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 10 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bw—3 to 13 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 15 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bk1—13 to 20 inches; very pale brown (10YR 7/3) loam, pale brown (10YR 6/3) moist; weak coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; common very fine tubular pores; 5 percent gravel; strongly effervescent; common coatings of calcium carbonate

1 millimeter thick on underside of gravel; strongly alkaline (pH 8.5); clear wavy boundary.

Bk2—20 to 30 inches; very pale brown (10YR 7/3) loam, pale brown (10YR 6/3) moist; weak medium platy structure parting to weak medium subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; common very fine tubular pores; 10 percent gravel; violently effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of gravel; strongly alkaline (pH 8.5); clear wavy boundary.

Bk3—30 to 45 inches; very pale brown (10YR 8/3) loam, yellowish brown (10YR 5/4) moist; massive; hard, friable, moderately sticky and moderately plastic; few fine roots; common very fine tubular pores; 10 percent gravel; violently effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of gravel; strongly alkaline (pH 8.5); clear wavy boundary.

Bk4—45 to 60 inches; very pale brown (10YR 7/3) gravelly loam, pale brown (10YR 6/3) moist; massive; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine tubular pores; 30 percent gravel; violently effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of gravel; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature (Bk horizon):* 5 to 50 inches to high content of carbonates

*Depth to calcic horizon:* 2 to 6 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 4 or 5 moist

Chroma—3 or 4 dry or moist

Texture—loam or silt loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—20 to 30 percent

Reaction—moderately alkaline

#### *Bw horizon:*

Hue—10YR

Value—6 or 7 dry, 4 to 6 moist

Chroma—3 or 4 dry or moist

Texture—loam or gravelly loam

Content of rock fragments—0 to 25 percent gravel

Calcium carbonate equivalent—20 to 35 percent

Reaction—moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 to 8 dry, 5 to 7 moist

Chroma—3 or 4 dry or moist

Texture—loam, silt loam, or gravelly loam

Content of rock fragments—5 to 30 percent gravel

Calcium carbonate equivalent—35 to 60 percent

Reaction—moderately alkaline or strongly alkaline

## ***McCarey Series***

*Depth class:* Moderately deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Mixed alluvium and loess over basalt

*Slope range:* 1 to 20 percent

*Elevation:* 4,600 to 5,600 feet

*Mean annual precipitation:* 10 to 16 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Fine-loamy, mixed, frigid Calcic Argixerolls

### ***Typical Pedon***

McCarey silt loam in an area of McCarey-Beartrap complex, 1 to 6 percent slopes, Butte County, Idaho, about 11 miles southwest of Atomic City, Idaho; 700 feet south and 1,200 feet west of the northeast corner of section 8, T. 1 S., R. 30 E.

A1—0 to 5 inches; brown (10YR 5/3) silt loam, dark brown (10YR 3/3) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common fine irregular pores; 5 percent gravel; neutral (pH 7.0); clear smooth boundary.

A2—5 to 12 inches; brown (10YR 5/3) silt loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and very fine roots; common very fine tubular pores; 5 percent gravel; neutral (pH 7.0); clear smooth boundary.

Bt—12 to 18 inches; brown (10YR 5/3) silty clay loam, dark brown (10YR 3/3) moist; weak fine prismatic structure parting to moderate medium subangular blocky; hard, firm, slightly sticky and moderately plastic; common very fine and fine roots; common very fine tubular and irregular pores; few faint clay films on faces of pedis; 5 percent gravel; slightly alkaline (pH 7.5); clear smooth boundary.

Bk1—18 to 28 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores; common medium and coarse nodules; cicada krotovinas; 5 percent gravel; strongly effervescent; slightly alkaline (pH 7.8); clear smooth boundary.

Bk2—28 to 33 inches; light gray (10YR 7/2) silt loam, brown (10YR 5/3) moist; massive; slightly hard, friable, moderately sticky and slightly plastic; few very fine roots; common very fine tubular pores; 5 percent gravel; violently effervescent; slightly alkaline (pH 7.8); abrupt wavy boundary.

2R—33 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Thickness of mollic epipedon:* 10 to 19 inches

*Depth to argillic horizon:* 2 to 12 inches

*Depth to calcic horizon:* 15 to 25 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—loam, silt loam, or fine sandy loam

Content of rock fragments—0 to 10 percent gravel

Reaction—neutral or slightly alkaline

*Bt horizon:*

Hue—10YR

Value—5 or 6 dry, 3 to 5 moist



Chroma—2 to 4 dry or moist  
Texture—clay loam or silty clay loam  
Content of rock fragments—0 to 10 percent gravel  
Reaction—slightly alkaline or moderately alkaline

*Bk horizon:*

Hue—10YR  
Value—6 or 7 dry, 4 or 5 moist  
Chroma—2 or 3 dry or moist  
Texture—loam or silt loam  
Content of rock fragments—0 to 10 percent gravel  
Calcium carbonate equivalent—15 to 30 percent  
Reaction—slightly alkaline to strongly alkaline

## ***McClenden Series***

*Depth class:* Deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Depressions of lava plains

*Parent material:* Mixed alluvium over basalt

*Slope range:* 1 to 4 percent

*Elevation:* 4,500 to 4,600 feet

*Mean annual precipitation:* 9 to 10 inches

*Mean annual air temperature:* 45 to 48 degrees F

*Frost-free period:* 100 to 110 days

*Taxonomic class:* Coarse-loamy, mixed, mesic Xeric Haplocambids

### ***Typical Pedon***

McClenden fine sandy loam in an area of McClenden-Thornock complex, 1 to 4 percent slopes, Butte County, Idaho, about 8 miles southeast of Coffee Point; about 1,420 feet south and 10 feet west of the northeast corner of section 35, T. 3 S., R. 31 E.

A—0 to 5 inches; brown (10YR 5/3) fine sandy loam, dark grayish brown (10YR 4/2) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 5 percent gravel; moderately alkaline (pH 7.9); clear smooth boundary.

Bw—5 to 11 inches; light yellowish brown (10YR 6/4) loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure; slightly hard, firm, slightly sticky and nonplastic; common very fine roots; common very fine and few fine tubular pores; 10 percent gravel; strongly alkaline (pH 8.5); clear wavy boundary.

Bk1—11 to 19 inches; very pale brown (10YR 7/3) loam, pale brown (10YR 6/3) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; common very fine roots; few very fine tubular pores; 5 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bk2—19 to 27 inches; very pale brown (10YR 7/3) fine sandy loam, pale brown (10YR 6/3) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 15 percent firm cicada nodules; violently effervescent; strongly alkaline (pH 8.5); clear smooth boundary.

Bk3—27 to 51 inches; very pale brown (10YR 7/3) fine sandy loam, brown (10YR 5/3) moist; weak coarse subangular blocky structure; soft, friable, nonsticky and

nonplastic; few very fine roots; few very fine tubular pores; 8 percent gravel and 5 percent cobbles; strongly effervescent; strongly alkaline (pH 8.5); abrupt wavy boundary.

2Bkqm—51 to 53 inches; very pale brown (10YR 7/3) indurated duripan, yellowish brown (10YR 5/4) moist; strong very thick platy structure; very hard, extremely firm, nonsticky and nonplastic; continuous silica cap; strongly effervescent; abrupt smooth boundary.

2R—53 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive features:* 40 to 55 inches to a duripan; 45 to 60 inches to lithic bedrock

*Depth to secondary carbonates:* 10 to 24 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—fine sandy loam

Content of rock fragments—0 to 15 percent gravel

Reaction—slightly alkaline or moderately alkaline

#### *Bw horizon:*

Hue—10YR

Value—5 or 6 dry, 4 or 5 moist

Chroma—3 or 4 dry or moist

Texture—loam or fine sandy loam

Content of rock fragments—0 to 15 percent gravel

Reaction—moderately alkaline or strongly alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 5 or 6 moist

Chroma—3 or 4 dry or moist

Texture—loam or fine sandy loam

Content of rock fragments—0 to 15 percent gravel and cobbles

Calcium carbonate equivalent—5 to 15 percent

Reaction—moderately alkaline or strongly alkaline

#### *2Bkqm horizon:*

Cementation—indurated

## ***Medicine Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Terraces

*Parent material:* Mixed alluvium

*Slope range:* 0 to 1 percent

*Elevation:* 4,800 to 5,400 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 70 to 100 days

*Taxonomic class:* Fine-loamy over sandy or sandy-skeletal, mixed, frigid Xeric Haplocalcids

### ***Typical Pedon***

Medicine loam in an area of Medicine-Whiteknob complex, 0 to 1 percent slopes, Butte County, Idaho, about 2 miles north of Howe, Idaho; about 100 feet north and 100 feet west of the southeast corner of section 29, T. 6 N., R. 29 E.

A—0 to 4 inches; light brownish gray (10YR 6/2) loam, brown (10YR 4/3) moist; moderate medium platy structure parting to moderate fine granular; soft, very friable, slightly sticky and nonplastic; many very fine and fine roots; many very fine irregular pores; 5 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); abrupt smooth boundary.

Bw—4 to 12 inches; light brownish gray (10YR 6/2) loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; many very fine and fine roots; common very fine and fine irregular pores; 5 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bk1—12 to 25 inches; light gray (10YR 7/2) silt loam, grayish brown (10YR 5/2) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; many very fine and fine roots; many very fine and fine irregular pores; 5 percent gravel; violently effervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.

2Bk2—25 to 60 inches; light brownish gray (10YR 6/2) extremely gravelly loamy sand, grayish brown (10YR 5/2) moist; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; many fine and medium irregular pores; 65 percent gravel and 15 percent cobbles; strongly effervescent; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature (2Bk horizon):* 20 to 40 inches to strongly contrasting textural stratification

*Depth to secondary carbonates:* 0 to 6 inches

*Depth to calcic horizon:* 10 to 15 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—5 to 10 percent gravel

Calcium carbonate equivalent—5 to 10 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bw horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 to 4 dry or moist

Texture—loam

Content of rock fragments—5 to 10 percent gravel

Calcium carbonate equivalent—5 to 10 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 5 or 6 moist

Chroma—2 to 4 dry or moist  
 Texture—silt loam  
 Content of rock fragments—5 to 10 percent gravel  
 Calcium carbonate equivalent—5 to 30 percent  
 Reaction—slightly alkaline or moderately alkaline

*2Bk horizon:*

Hue—10YR  
 Value—6 or 7 dry, 5 or 6 moist  
 Chroma—1 to 4 dry or moist  
 Texture—extremely gravelly loamy sand  
 Content of rock fragments—60 to 90 percent gravel and cobbles  
 Calcium carbonate equivalent—15 to 20 percent  
 Reaction—moderately alkaline or strongly alkaline

## **Menan Series**

*Depth class:* Very deep  
*Drainage class:* Well drained  
*Landscape:* Plains  
*Landform:* Depressions of lava plains  
*Parent material:* Mixed alluvium  
*Slope range:* 0 to 2 percent  
*Elevation:* 4,500 to 5,500 feet  
*Mean annual precipitation:* 9 to 11 inches  
*Mean annual air temperature:* 43 to 45 degrees F  
*Frost-free period:* 70 to 100 days  
*Taxonomic class:* Fine-silty, mixed, frigid Xeric Calciargids

### **Typical Pedon**

Menan silt loam, 0 to 2 percent slopes, Butte County, Idaho, about 2.5 miles northeast of Little Butte and 13 miles northwest of Atomic City, Idaho; about 1,500 feet south and 2,400 feet east of the northwest corner of section 26, T. 3 N., R. 33 E.

- A1—0 to 3 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; few very fine tubular pores; 2 percent gravel; moderately alkaline (pH 7.9); clear smooth boundary.
- A2—3 to 7 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; few very fine tubular pores; 1 percent gravel; moderately alkaline (pH 7.9); clear smooth boundary.
- Bt1—7 to 13 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; weak and moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine tubular pores; few faint clay films on faces of peds; 1 percent gravel; moderately alkaline (pH 7.9); clear smooth boundary.
- Bt2—13 to 27 inches; pale brown (10YR 6/3) silty clay loam, dark brown (10YR 3/3) moist; moderate fine prismatic structure parting to strong fine subangular blocky; hard, friable, moderately sticky and moderately plastic; common very fine, fine, and medium roots; common very fine and fine tubular and irregular pores; common faint clay films on faces of peds; 1 percent gravel; moderately alkaline (pH 7.9); gradual wavy boundary.

- Bt3—27 to 33 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; strong medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine and fine tubular and irregular pores; common faint clay films on faces of peds; 1 percent gravel; moderately alkaline (pH 7.9); clear smooth boundary.
- Btk—33 to 38 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine tubular pores; few faint clay films on faces of peds; common hard nodules; cicada krotovinas; 1 percent gravel; slightly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
- Bk1—38 to 51 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; common very fine tubular pores; many hard rounded nodules; cicada krotovinas; 1 percent gravel; strongly effervescent; strongly alkaline (pH 8.5); gradual smooth boundary.
- Bk2—51 to 60 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores; 1 percent gravel; strongly effervescent; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to argillic horizon:* 4 to 10 inches

*Depth to calcic horizon:* 24 to 40 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Content of rock fragments—0 to 5 percent gravel

Reaction—slightly alkaline or moderately alkaline

#### *Bt horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—silty clay loam

Content of rock fragments—0 to 5 percent gravel

Reaction—slightly alkaline or moderately alkaline

#### *Btk horizon:*

Hue—10YR

Value—6 or 7 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—silt loam or silty clay loam

Content of rock fragments—0 to 5 percent gravel

Calcium carbonate equivalent—10 to 15 percent

Reaction—moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 to 8 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—loam, silt loam, or clay loam

Content of rock fragments—0 to 5 percent gravel  
Calcium carbonate equivalent—15 to 25 percent  
Reaction—moderately alkaline or strongly alkaline

### ***Milligan Series***

*Depth class:* Moderately deep  
*Drainage class:* Well drained  
*Landscape:* Mountains  
*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from conglomerate and sandstone  
*Slope range:* 60 to 75 percent  
*Elevation:* 6,000 to 7,000 feet  
*Mean annual precipitation:* 12 to 18 inches  
*Mean annual air temperature:* 40 to 44 degrees F  
*Frost-free period:* 60 to 90 days  
*Taxonomic class:* Loamy-skeletal over fragmental, mixed, frigid Typic Haploxerolls

### ***Typical Pedon***

Milligan extremely cobbly loam in an area of Rubble land-Milligan complex, 60 to 75 percent slopes, Butte County, Idaho, about 12 miles west and 2 miles south of Arco, Idaho; about 2,100 feet south and 800 feet west of the northeast corner of section 12, T. 3 N., R. 24 E.

- A—0 to 10 inches; brown (10YR 5/3) extremely cobbly loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine, fine, and medium roots; many very fine irregular pores; 20 percent gravel and 40 percent cobbles; neutral (pH 6.7); clear wavy boundary.
- Bw—10 to 28 inches; yellowish brown (10YR 5/4) extremely gravelly loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, fine, and medium roots; many very fine irregular pores; 55 percent gravel and 15 percent cobbles; neutral (pH 7.2); gradual wavy boundary.
- C—28 to 38 inches; gray (N 5/0) displaced fractured bedrock with some voids; few fine and medium roots; 95 percent rock fragments; neutral (pH 7.2); abrupt wavy boundary.
- 2R—38 inches; quartzite.

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock  
*Thickness of mollic epipedon:* 7 to 15 inches

#### *A horizon:*

Hue—10YR  
Value—4 or 5 dry, 2 or 3 moist  
Chroma—2 or 3 dry or moist  
Texture—extremely cobbly loam  
Content of rock fragments—60 to 75 percent gravel and cobbles  
Reaction—slightly acid or neutral

#### *Bw horizon:*

Hue—10YR  
Value—4 to 6 dry, 3 or 4 moist  
Chroma—3 or 4 dry or moist

Texture—extremely gravelly loam

Content of rock fragments—60 to 75 percent gravel and cobbles

Reaction—neutral or slightly alkaline

*C horizon:*

Characteristics of bedrock—fractured; less than 10 percent of voids contain soil material

## ***Minidoka Series***

*Depth class:* Moderately deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Depressions of lava plains

*Parent material:* Alluvium, loess, and lacustrine deposits

*Slope range:* 0 to 2 percent

*Elevation:* 4,500 to 4,700 feet

*Mean annual precipitation:* 9 to 10 inches

*Mean annual air temperature:* 46 to 48 degrees F

*Frost-free period:* 100 to 120 days

*Taxonomic class:* Coarse-silty, mixed, mesic Xeric Haplodurids

### ***Typical Pedon***

Minidoka silt loam in an area of Truesdale-Minidoka complex, 0 to 2 percent slopes, Butte County, Idaho, about 8 miles southeast of Coffee Point; about 490 feet north and 80 feet east of the southwest corner of section 35, T. 3 S., R. 31 E.

A1—0 to 5 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak thick platy structure; soft, very friable, slightly sticky and nonplastic; common very fine and few medium roots; common very fine tubular pores; 10 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

A2—5 to 10 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; soft, very friable, slightly sticky and nonplastic; few very fine roots; common very fine and few fine tubular pores; 10 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

Bk1—10 to 24 inches; very pale brown (10YR 7/3) silt loam, brown (10YR 5/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; 30 percent firm cicada nodules; 5 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); gradual wavy boundary.

Bk2—24 to 29 inches; very pale brown (10YR 8/3) silt loam, brown (10YR 5/3) moist; weak coarse subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few very fine roots; common very fine and few fine tubular pores; 30 percent very firm cicada nodules; violently effervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.

2Bkqm—29 to 46 inches; very pale brown (10YR 8/3) indurated duripan, light yellowish brown (10YR 6/4) moist; strong thick platy structure; very hard, extremely firm; continuous opal cap 0.2 millimeter thick; strongly effervescent; clear smooth boundary.

2B'k1—46 to 57 inches; very pale brown (10YR 7/3) silt loam, light yellowish brown (10YR 6/4) moist; moderate medium platy structure; soft, very friable, nonsticky and nonplastic; common very fine tubular pores; strongly effervescent; moderately alkaline (pH 7.9); gradual wavy boundary.



2B<sup>1</sup>k<sub>2</sub>—57 to 64 inches; very pale brown (10YR 7/3) gravelly silt loam, yellowish brown (10YR 5/4) moist; weak very thick platy structure; soft, friable, nonsticky and nonplastic; common very fine tubular pores; 30 percent gravel; violently effervescent; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 40 inches to a duripan

*Depth to calcic horizon:* 7 to 16 inches

#### *A horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—5 to 15 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 to 8 dry, 4 to 6 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—15 to 40 percent

Reaction—moderately alkaline or strongly alkaline

#### *2Bkqm horizon:*

Characteristics—fractured in upper part; indurated in lower part

#### *2B<sup>1</sup>k horizon:*

Hue—10YR

Value—7 or 8 dry, 5 or 6 moist

Chroma—3 or 4 dry or moist

Texture—silt loam or gravelly silt loam

Content of rock fragments—0 to 30 percent gravel

Calcium carbonate equivalent—15 to 40 percent

Reaction—moderately alkaline or strongly alkaline

## ***Mogg Series***

*Depth class:* Shallow

*Drainage class:* Well drained

*Landscape:* Foothills, mountains

*Landform:* Hillslopes, mountain slopes, ridges

*Parent material:* Colluvium derived from quartzite and rhyolite

*Slope range:* 15 to 60 percent

*Elevation:* 5,000 to 7,500 feet

*Mean annual precipitation:* 10 to 14 inches

*Mean annual air temperature:* 38 to 44 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Loamy-skeletal, mixed, frigid Lithic Xeric Haplocalcids

### ***Typical Pedon***

Mogg very gravelly loam in an area of Mogg-Shagel association, 15 to 60 percent

slopes, Butte County, Idaho, about 9 miles northeast of Howe, Idaho; 1,100 feet south and 1,600 feet east of the northwest corner of section 34, T. 7 N., R. 30 E.

- A—0 to 2 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; weak thick platy structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 30 percent gravel, 2 percent stones, and 10 percent flagstones; moderately alkaline (pH 7.9); clear smooth boundary.
- Bw—2 to 6 inches; brown (10YR 5/3) very gravelly loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and few medium roots; common very fine tubular pores; 30 percent gravel, 2 percent stones, and 15 percent flagstones; moderately alkaline (pH 7.9); clear wavy boundary.
- Bk1—6 to 9 inches; brown (10YR 5/3) very flaggy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 25 percent gravel, 3 percent stones, and 25 percent flagstones; moderately effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); clear wavy boundary.
- Bk2—9 to 13 inches; pale brown (10YR 6/3) extremely flaggy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 30 percent gravel, 6 percent stones, and 25 percent flagstones; strongly effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); abrupt wavy boundary.
- R—13 inches; rhyolite.

### ***Range in Characteristics***

*Depth to restrictive feature:* 12 to 20 inches to lithic bedrock

*Depth to calcic horizon:* 5 to 8 inches

#### ***A and Bw horizons:***

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly loam

Content of rock fragments—35 to 55 percent gravel, stones, and flagstones

Calcium carbonate equivalent—0 to 10 percent

Reaction—slightly alkaline or moderately alkaline

#### ***Bk horizon:***

Hue—10YR

Value—5 to 8 dry, 3 to 6 moist

Chroma—3 or 4 dry or moist

Texture—very flaggy loam or extremely flaggy loam

Content of rock fragments—35 to 70 percent gravel, stones, and flagstones

Calcium carbonate equivalent—15 to 25 percent

Reaction—slightly alkaline or moderately alkaline

### ***Molyneux Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Depressions of lava plains

*Parent material:* Mixed alluvium and colluvium

*Slope range:* 2 to 8 percent

*Elevation:* 4,700 to 5,400 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Fine-loamy, mixed, frigid Ultic Argixerolls

### ***Typical Pedon***

Molyneux loam in an area of McCarey-Molyneux-Lava flows complex, 2 to 15 percent slopes, Butte County, Idaho, about 6 miles southeast of Serviceberry Butte; about 900 feet south and 50 feet east of the northwest corner of section 6, T. 2 S., R. 30 E.

A1—0 to 7 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, medium, and coarse roots; many very fine and fine irregular pores; neutral (pH 6.7); clear wavy boundary.

A2—7 to 13 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, medium, and coarse roots; common very fine and fine tubular pores; neutral (pH 6.7); gradual wavy boundary.

Bt1—13 to 25 inches; pale brown (10YR 6/3) clay loam, yellowish brown (10YR 5/4) moist; strong fine and medium angular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; common very fine tubular pores; common distinct clay films on faces of peds and in pores; very pale brown (10YR 8/2) bleached sand and silt grains on faces of peds; neutral (pH 7.0); gradual wavy boundary.

Bt2—25 to 48 inches; light yellowish brown (10YR 6/4) silt loam, yellowish brown (10YR 5/4) moist; strong fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; common very fine tubular pores; few faint clay films on faces of peds; neutral (pH 7.2); clear wavy boundary.

Bt3—48 to 62 inches; very pale brown (10YR 7/4) silt loam, pale brown (10YR 6/3) moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few fine and medium tubular pores; few faint clay films on faces of peds; neutral (pH 7.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 10 to 20 inches

*Depth to argillic horizon:* 10 to 20 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 10 percent gravel

Reaction—slightly acid or neutral

*Bt1 horizon:*

Hue—10YR

Value—4 to 6 dry, 3 to 5 moist

Chroma—3 or 4 dry or moist

Texture—clay loam

Content of rock fragments—0 to 10 percent gravel

Reaction—neutral

*Bt2 and Bt3 horizons:*

Hue—10YR

Value—5 to 7 dry, 4 to 6 moist

Chroma—3 or 4 dry or moist

Texture—silt loam

Content of rock fragments—0 to 10 percent gravel

Reaction—neutral or slightly alkaline

***Moonville Series****Depth class:* Very deep*Drainage class:* Well drained*Landscape:* Plains, mountains*Landform:* Lava plains, mountain slopes*Parent material:* Volcanic ash and cinders*Slope range:* 2 to 30 percent*Elevation:* 4,800 to 6,000 feet*Mean annual precipitation:* 12 to 16 inches*Mean annual air temperature:* 40 to 45 degrees F*Frost-free period:* 60 to 90 days*Taxonomic class:* Medial, frigid Typic Vitrixerands***Typical Pedon***

Moonville loam in an area of Huddle-Moonville complex, 2 to 12 percent slopes, Butte County, Idaho, about 10.5 miles south of Arco, Idaho; about 2,950 feet south and 1,800 feet west of the northeast corner of section 22, T. 2 N., R. 26 E.

A—0 to 7 inches; brown (7.5YR 5/4) loam, dark brown (7.5YR 3/4) moist; weak thick platy structure parting to weak fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; many very fine irregular pores; neutral (pH 7.0); gradual wavy boundary.

Bw1—7 to 15 inches; strong brown (7.5YR 5/6) loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; many very fine irregular pores; neutral (pH 7.0); abrupt wavy boundary.

Bw2—15 to 31 inches; light yellowish brown (10YR 6/4) loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; few fine and common medium roots; few fine tubular pores and many fine and very fine irregular pores; neutral (pH 7.0); clear wavy boundary.

Bk—31 to 60 inches; light gray (10YR 7/2) loam, pale brown (10YR 6/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few fine and medium roots; common fine and medium tubular pores; strongly effervescent; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to calcic horizon:* 20 to 35 inches

*Thickness of andic soil properties:* More than 60 inches

*A horizon:*

Hue—7.5YR or 10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—3 or 4 dry or moist

Texture—loam

Content of rock fragments—0 to 10 percent gravel

Reaction—neutral or slightly alkaline

*Bw horizon:*

Hue—7.5YR or 10YR

Value—4 to 7 dry, 3 to 7 moist

Chroma—3 to 6 dry or moist

Texture—loam

Content of rock fragments—0 to 10 percent gravel

Reaction—neutral or slightly alkaline

*Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 5 or 6 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—15 to 35 percent

Reaction—moderately alkaline

### ***Mooretown Series***

*Depth class:* Very deep

*Drainage class:* Somewhat poorly drained, or well drained (where drainage has occurred)

*Landscape:* Plains

*Landform:* Flood plains, stream terraces

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Elevation:* 5,000 to 6,300 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 40 to 45 degrees F

*Frost-free period:* 50 to 90 days

*Taxonomic class:* Coarse-loamy, mixed, frigid Cumulic Haploxerolls

### ***Typical Pedon***

Mooretown loam in an area of Mooretown-Borah complex, 0 to 2 percent slopes, Butte County, Idaho, about 4.4 miles southwest of Moore, Idaho; about 1,000 feet north and 900 feet east of the southwest corner of section 11, T. 4 N., R. 26 E.

A—0 to 3 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; 3 percent gravel; very slightly effervescent; neutral (pH 7.2); clear smooth boundary.

- Bk1—3 to 12 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; common fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and very fine and few medium roots; common very fine tubular pores; 1 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); abrupt smooth boundary.
- Bk2—12 to 24 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; common fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine and very fine and few medium roots; common very fine tubular pores; 4 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.
- Bg1—24 to 39 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; few faint dark yellowish brown (10YR 4/4) redoximorphic concentrations; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; common very fine tubular pores; 2 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.
- Bg2—39 to 48 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; few faint dark yellowish brown (10YR 4/4) redoximorphic concentrations; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; common very fine tubular pores; 2 percent gravel; moderately alkaline (pH 7.9); abrupt wavy boundary.
- 2Bg3—48 to 60 inches; grayish brown (10YR 5/2) extremely gravelly loamy sand, very dark brown (10YR 2/2) moist; few faint dark yellowish brown (10YR 4/4) redoximorphic concentrations; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; 50 percent gravel and 10 percent cobbles; slightly alkaline (pH 7.6).

### ***Range in Characteristics***

*Depth to restrictive feature (2Bg horizon):* 40 to 60 inches to strongly contrasting textural stratification

*Frequency of flooding:* Occasional

*Depth to water table (undrained areas):* 1.5 to 3.0 feet in April through July

*Thickness of mollic epipedon:* More than 24 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—1 or 2 dry or moist

Texture—loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—0 to 10 percent

Reaction—neutral or slightly alkaline

#### *Bk and Bg horizons:*

Hue—10YR or 2.5Y

Value—4 or 5 dry, 3 or 4 moist

Chroma—1 or 2 dry or moist

Texture—loam or sandy loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—0 to 15 percent

Reaction—slightly alkaline or moderately alkaline

#### *2Bg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6 dry, 2 to 4 moist

Chroma—1 or 2 dry or moist

Texture—very gravelly sandy loam, very gravelly loamy sand, or extremely gravelly loamy sand

Content of rock fragments—35 to 80 percent gravel and cobbles

Reaction—neutral or slightly alkaline

## ***Nargon Series***

*Depth class:* Moderately deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Mixed alluvium over basalt

*Slope range:* 2 to 20 percent

*Elevation:* 4,500 to 5,800 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 110 days

*Taxonomic class:* Coarse-loamy, mixed, frigid Xeric Haplocalcids

### ***Typical Pedon***

Nargon silt loam in an area of Nargon-Deuce-Lava flows complex, 0 to 20 percent slopes, Butte County, Idaho, about 0.5 mile east of Tea Kettle Butte and 6 miles southeast of Butte City, Idaho; about 2,400 feet south and 2,500 feet east of the northwest corner of section 18, T. 2 N., R. 28 E.

A—0 to 2 inches; light brownish gray (10YR 6/2) silt loam, dark brown (10YR 3/3) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine vesicular pores; 2 percent gravel, 2 percent cobbles, and 2 percent stones; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bk—2 to 7 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and few very fine and medium roots; common very fine tubular pores; 1 percent gravel and 2 percent cobbles; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bkq1—7 to 11 inches; pale brown (10YR 6/3) loam, brown (10YR 5/3) moist; common fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; few very fine tubular pores; common hard medium and coarse nodules; cicada krotovinas; 2 percent gravel and 5 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 8.2); clear wavy boundary.

Bkq2—11 to 21 inches; very pale brown (10YR 8/3) stony loam, pale brown (10YR 6/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; common very fine tubular pores; few hard medium and coarse nodules; cicada krotovinas; 5 percent gravel, 5 percent cobbles, and 10 percent stones; violently effervescent; common coatings of calcium carbonate and silica 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 8.2); abrupt irregular boundary.

2R—21 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Depth to calcic horizon:* 1 to 10 inches



*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—loam or silt loam

Content of rock fragments—0 to 15 percent gravel, cobbles, and stones

Calcium carbonate equivalent—3 to 15 percent

Reaction—slightly alkaline or moderately alkaline

*Bk horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—silt loam or clay loam

Content of rock fragments—0 to 10 percent gravel and cobbles

Calcium carbonate equivalent—15 to 25 percent

Reaction—slightly alkaline or moderately alkaline

*Bkq horizon:*

Hue—10YR

Value—6 to 8 dry, 5 to 7 moist

Chroma—2 or 3 dry or moist

Texture—loam, gravelly silt loam, or stony loam

Content of rock fragments—5 to 30 percent gravel, cobbles, and stones

Calcium carbonate equivalent—15 to 40 percent

Reaction—moderately alkaline

***Nitchly Series****Depth class:* Very deep*Drainage class:* Well drained*Landscape:* Foothills, mountains*Landform:* Hillslopes, mountain slopes*Parent material:* Colluvium derived from limestone*Slope range:* 15 to 50 percent*Elevation:* 6,000 to 8,500 feet*Mean annual precipitation:* 8 to 11 inches*Mean annual air temperature:* 36 to 40 degrees F*Frost-free period:* 20 to 50 days*Taxonomic class:* Loamy-skeletal, carbonatic Xeric Calcicryids***Typical Pedon***

Nitchly gravelly loam, 15 to 50 percent slopes, Butte County, Idaho, about 2 miles southeast of Hawley Mountain; about 200 feet north and 1,400 feet west of the southeast corner of section 26, T. 9 N., R. 26 E.

A1—0 to 3 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine vesicular pores; 20 percent gravel, 5 percent cobbles, and 1 percent stones; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

A2—3 to 10 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine, and few medium roots; common very fine tubular pores; 20 percent gravel and 10 percent cobbles;

strongly effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.

Bk1—10 to 24 inches; very pale brown (10YR 7/3) very gravelly loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine tubular pores; 35 percent gravel and 15 percent cobbles; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); clear wavy boundary.

Bk2—24 to 39 inches; very pale brown (10YR 8/3) very gravelly clay loam, pale brown (10YR 6/3) moist; massive; slightly hard, friable, sticky and plastic; common very fine and few fine roots; common very fine irregular pores; 40 percent gravel and 10 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2); clear wavy boundary.

Bk3—39 to 45 inches; very pale brown (10YR 8/2) very gravelly clay loam, very pale brown (10YR 7/3) moist; massive; slightly hard, friable, moderately sticky and slightly plastic; many very fine roots; common very fine tubular pores; 35 percent gravel and 5 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2); gradual wavy boundary.

Bk4—45 to 60 inches; very pale brown (10YR 8/2) very gravelly clay loam, very pale brown (10YR 7/3) moist; massive; slightly hard, friable, moderately sticky and slightly plastic; few very fine roots; common very fine tubular pores; 40 percent gravel and 10 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature (Bk2 horizon):* 20 to 30 inches to high content of carbonates

*Depth to calcic horizon:* 3 to 10 inches

#### ***A horizon:***

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—gravelly loam

Content of rock fragments—20 to 35 percent gravel, cobbles, and stones

Calcium carbonate equivalent—10 to 35 percent

Reaction—slightly alkaline or moderately alkaline

#### ***Bk horizon:***

Hue—10YR

Value—6 to 8 dry, 4 to 7 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly loam or very gravelly clay loam

Content of rock fragments—45 to 59 percent gravel and cobbles

Calcium carbonate equivalent—35 to 55 percent in upper part; 40 to 90 percent in lower part

Reaction—slightly alkaline to strongly alkaline

## **Nurkey Series**

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Foothills, mountains

*Landform:* Hillslopes, mountain slopes

*Parent material:* Colluvium derived from igneous rock

*Slope range:* 5 to 60 percent

*Elevation:* 5,500 to 7,500 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 38 to 40 degrees F

*Frost-free period:* 40 to 60 days

*Taxonomic class:* Loamy-skeletal, mixed Argic Cryoborolls

### **Typical Pedon**

Nurkey gravelly loam in an area of Nurkey-Dacont association, 5 to 35 percent slopes, Butte County, Idaho, about 2.5 miles southwest of Hawley Mountain; about 500 feet south and 50 feet west of the northeast corner of section 31, T. 9 N., R. 26 E.

A—0 to 7 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak thick platy structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine irregular pores; 20 percent gravel, 5 percent cobbles, and 3 percent stones; neutral (pH 7.2); clear smooth boundary.

Bt—7 to 15 inches; brown (10YR 5/3) very gravelly clay loam, dark brown (10YR 3/3) moist; moderate fine prismatic structure parting to moderate fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; few faint clay films on faces of peds and in pores; 35 percent gravel, 5 percent cobbles, and 1 percent stones; moderately alkaline (pH 7.9); clear wavy boundary.

Bk1—15 to 20 inches; brown (7.5YR 5/4) very gravelly loam, dark brown (7.5YR 3/4) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 30 percent gravel, 5 percent cobbles, and 1 percent stones; strongly effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); clear wavy boundary.

Bk2—20 to 30 inches; pink (7.5YR 7/4) very gravelly loam, brown (7.5YR 5/4) moist; weak coarse subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; common very fine and few fine and medium roots; common very fine irregular pores; 35 percent gravel, 15 percent cobbles, and 1 percent stones; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.

Bk3—30 to 42 inches; light brown (7.5YR 6/4) very gravelly loam, brown (7.5YR 4/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; common very fine irregular pores; 35 percent gravel, 15 percent cobbles, and 5 percent stones; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.

Bk4—42 to 60 inches; light brown (7.5YR 6/4) very gravelly loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, nonsticky and slightly plastic; few very fine

roots; few very fine tubular pores; 35 percent gravel, 15 percent cobbles, and 5 percent stones; strongly effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 8 to 15 inches

*Depth to argillic horizon:* 1 to 8 inches

*Depth to calcic horizon:* 15 to 30 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—20 to 35 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

#### *Bt horizon:*

Hue—10YR

Value—5 to 7 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly loam or very gravelly clay loam

Content of rock fragments—40 to 55 percent gravel, cobbles, and stones

Calcium carbonate equivalent—0 to 20 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—7.5YR or 10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly loam, very gravelly sandy loam, or extremely gravelly sandy loam

Content of rock fragments—50 to 70 percent gravel, cobbles, and stones

Calcium carbonate equivalent—10 to 30 percent

Reaction—slightly alkaline or moderately alkaline

## ***Packmo Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Mixed alluvium

*Slope range:* 8 to 12 percent

*Elevation:* 5,400 to 6,500 feet

*Mean annual precipitation:* 8 to 10 inches

*Mean annual air temperature:* 40 to 43 degrees F

*Frost-free period:* 60 to 80 days

*Taxonomic class:* Loamy-skeletal, mixed, frigid Xeric Haplocalcids

### ***Typical Pedon***

Packmo gravelly loam in an area of Packmo-Snowslide complex, 8 to 12 percent slopes, Butte County, Idaho, about 1.3 miles northeast of Nickolas Ranch; about

1,400 feet north and 2,000 feet east of the southwest corner of section 16, T. 8 N., R. 28 E.

- A—0 to 3 inches; grayish brown (10YR 5/2) gravelly loam, dark brown (10YR 3/3) moist; weak medium platy structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; common very fine irregular pores; 25 percent gravel, 5 percent cobbles, and 1 percent stones; neutral (pH 7.2); clear smooth boundary.
- Bw—3 to 12 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; common very fine tubular pores; 40 percent gravel, 10 percent cobbles, and 2 percent stones; neutral (pH 7.2); gradual wavy boundary.
- Bk—12 to 19 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 35 percent gravel, 10 percent cobbles, and 2 percent stones; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.
- Bkq1—19 to 29 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine, fine, and medium roots; common fine tubular pores; 35 percent gravel, 10 percent cobbles, and 2 percent stones; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.
- Bkq2—29 to 42 inches; very pale brown (10YR 8/3) very gravelly sandy loam, pale brown (10YR 6/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; common very fine, fine, and medium roots; common fine tubular pores; 40 percent gravel, 10 percent cobbles, and 2 percent stones; slightly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.
- 2Bkq3—42 to 50 inches; very pale brown (10YR 8/3) extremely gravelly loamy coarse sand, pale brown (10YR 6/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine, fine, and medium roots; 45 percent gravel, 15 percent cobbles, and 2 percent stones; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2); gradual wavy boundary.
- 2Bkq4—50 to 60 inches; pale brown (10YR 6/3) extremely gravelly loamy sand, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine, fine, and medium roots; 45 percent gravel, 15 percent cobbles, and 2 percent stones; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature (2Bkq horizon):* 40 to 60 inches to strongly contrasting textural stratification

*Depth to calcic horizon:* 10 to 20 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist  
 Texture—gravelly loam  
 Content of rock fragments—20 to 34 percent gravel, cobbles, and stones  
 Reaction—neutral or slightly alkaline

*Bw horizon:*

Hue—10YR  
 Value—5 or 6 dry, 3 or 4 moist  
 Chroma—3 or 4 dry or moist  
 Texture—very gravelly sandy loam  
 Content of rock fragments—35 to 55 percent gravel, cobbles, and stones  
 Reaction—neutral or slightly alkaline

*Bk and Bkq horizons:*

Hue—10YR  
 Value—6 to 8 dry, 4 to 6 moist  
 Chroma—3 or 4 dry or moist  
 Texture—very gravelly sandy loam  
 Content of rock fragments—40 to 55 percent gravel, cobbles, and stones  
 Calcium carbonate equivalent—5 to 15 percent  
 Reaction—slightly alkaline or moderately alkaline

*2Bkq horizon:*

Hue—10YR  
 Value—6 to 8 dry, 4 to 6 moist  
 Chroma—2 to 4 dry or moist  
 Texture—extremely gravelly loamy sand or extremely gravelly loamy coarse sand  
 Content of rock fragments—60 to 85 percent gravel, cobbles, and stones  
 Calcium carbonate equivalent—5 to 15 percent  
 Reaction—slightly alkaline to strongly alkaline

## ***Paint Series***

*Depth class:* Shallow to a duripan

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Alluvium derived from limestone

*Slope range:* 1 to 12 percent

*Elevation:* 5,400 to 6,400 feet

*Mean annual precipitation:* 8 to 11 inches

*Mean annual air temperature:* 39 to 45 degrees F

*Frost-free period:* 65 to 80 days

*Taxonomic class:* Loamy-skeletal, carbonatic, frigid, shallow Xerochreptic  
 Haplodurids

### ***Typical Pedon***

Paint gravelly loam in an area of Paint-Whitecloud complex, 1 to 4 percent slopes,  
 Butte County, Idaho, about 4 miles northeast of Hawley Mountain; about 1,100  
 feet north and 100 feet west of the southeast corner of section 26, T. 10 N.,  
 R. 26 E.

A1—0 to 3 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist;  
 weak thin platy structure; slightly hard, very friable, nonsticky and slightly plastic;  
 many very fine and fine roots; many fine irregular pores; 20 percent gravel and



- 1 percent cobbles; slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.
- A2—3 to 8 inches; pale brown (10YR 6/3) gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and few medium roots; common very fine tubular pores; 20 percent gravel and 2 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
- Bkq1—8 to 10 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; many very fine and fine and few medium roots; common very fine tubular pores; 35 percent gravel and 2 percent cobbles; strongly effervescent; few coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 8.2); clear wavy boundary.
- Bkq2—10 to 15 inches; very pale brown (10YR 7/3) very gravelly loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; hard, friable, nonsticky and slightly plastic; common very fine, fine, and medium roots; common very fine irregular pores; 45 percent gravel and 2 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2); abrupt wavy boundary.
- 2Bkqm—15 to 20 inches; strongly cemented duripan; continuous root mat 1 to 3 millimeters thick above duripan; 65 percent gravel and 2 percent cobbles; clear wavy boundary.
- 2Bkq1—20 to 28 inches; very pale brown (10YR 7/3) very gravelly sandy loam, brown (10YR 5/3) moist; massive; slightly hard, friable, nonsticky and slightly plastic; few very fine roots; 45 percent gravel and 5 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 2 to 4 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2); gradual wavy boundary.
- 2Bkq2—28 to 60 inches; pale brown (10YR 6/3) extremely gravelly sand, brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; 50 percent gravel and 10 percent cobbles; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature:* 10 to 20 inches to a duripan

*Depth to calcic horizon:* 3 to 10 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 35 percent gravel and cobbles

Calcium carbonate equivalent—25 to 65 percent

Reaction—slightly alkaline to strongly alkaline

#### *Bkq horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly loam

Content of rock fragments—35 to 55 percent gravel and cobbles

Calcium carbonate equivalent—40 to 70 percent

Reaction—slightly alkaline to strongly alkaline



*2Bkqm horizon:*

Cementation—weakly cemented or strongly cemented

*2Bkq horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—1 to 4 dry or moist

Texture—very gravelly sandy loam, extremely gravelly sand, or extremely gravelly loamy coarse sand

Content of rock fragments—40 to 85 percent gravel and cobbles

Calcium carbonate equivalent—35 to 70 percent

Reaction—slightly alkaline to strongly alkaline

***Pancheri Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Loess

*Slope range:* 2 to 12 percent

*Elevation:* 4,500 to 5,500 feet

*Mean annual precipitation:* 8 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 80 to 110 days

*Taxonomic class:* Coarse-silty, mixed, frigid Xeric Haplocalcids

***Typical Pedon***

Pancheri silt loam, 2 to 8 percent slopes, Butte County, Idaho, about 13 miles northeast of Atomic City, Idaho, and 6 miles northeast of East Twin Butte; about 2,350 feet south and 2,550 feet west of the northeast corner of section 22, T. 3 N., R. 33 E.

A—0 to 4 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate thin platy structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; many fine vesicular pores; 2 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bw—4 to 9 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 1 percent gravel; strongly effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

Bk1—9 to 20 inches; very pale brown (10YR 7/3) silt loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; many hard nodules; cicada krotovinas; 1 percent gravel; violently effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of gravel; moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—20 to 29 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine tubular pores; common hard nodules; cicada krotovinas; 1 percent gravel; violently effervescent; common coatings of calcium carbonate 1 millimeter

thick on underside of gravel; moderately alkaline (pH 8.2); gradual wavy boundary.

Bk3—29 to 40 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; common very fine tubular pores; 1 percent gravel; strongly effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of gravel; moderately alkaline (pH 8.2); clear wavy boundary.

Bk4—40 to 60 inches; very pale brown (10YR 7/3) silt loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; 1 percent gravel; strongly effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of gravel; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to calcic horizon:* 6 to 15 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—1 to 5 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bw horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—silt loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—10 to 30 percent

Reaction—moderately alkaline or strongly alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—15 to 25 percent

Reaction—slightly alkaline to strongly alkaline

## ***Parvis Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Foothills, mountains

*Landform:* Hillslopes, mountain slopes

*Parent material:* Colluvium and slope alluvium derived from siltstone

*Slope range:* 15 to 60 percent

*Elevation:* 6,000 to 8,500 feet

*Mean annual precipitation:* 12 to 18 inches

*Mean annual air temperature:* 34 to 40 degrees F

*Frost-free period:* 10 to 60 days

*Taxonomic class:* Loamy-skeletal, mixed Cryic Pachic Paleborolls

### ***Typical Pedon***

Parvis gravelly loam in an area of Klug-Parvis complex, 20 to 60 percent slopes, Butte County, Idaho, about 1 mile northeast of Timbered Dome and 12 miles west of Arco, Idaho; about 2,100 feet south and 1,600 feet west of the northeast corner of section 31, T. 4 N., R. 25 E.

A1—0 to 8 inches; dark grayish brown (10YR 4/2) gravelly loam, very dark brown (10YR 2/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; 30 percent gravel and 1 percent cobbles; neutral (pH 6.7); clear wavy boundary.

A2—8 to 28 inches; brown (10YR 5/3) very flaggy loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 15 percent gravel and 30 percent flagstones; neutral (pH 6.7); clear wavy boundary.

Bt1—28 to 43 inches; yellowish brown (10YR 5/4) extremely flaggy clay loam, dark yellowish brown (10YR 3/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; common faint clay films on faces of peds; 15 percent gravel and 45 percent flagstones; neutral (pH 7.2); clear wavy boundary.

Bt2—43 to 60 inches; pale brown (10YR 6/3) extremely flaggy clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and moderately plastic; few very fine roots; common very fine tubular pores; few faint clay films on faces of peds; 20 percent gravel and 45 percent flagstones; neutral (pH 7.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 20 to 30 inches

*Depth to argillic horizon:* 24 to 35 inches

#### ***A1 horizon:***

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—20 to 35 percent gravel and cobbles

Reaction—slightly acid or neutral

#### ***A2 horizon:***

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—very flaggy loam

Content of rock fragments—35 to 50 percent gravel and flagstones

Reaction—slightly acid or neutral

#### ***Bt horizon:***

Hue—10YR

Value—4 to 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—very flaggy clay loam or extremely flaggy clay loam  
Content of rock fragments—45 to 80 percent gravel and flagstones  
Reaction—neutral or slightly alkaline

### ***Pingree Series***

*Depth class:* Very shallow  
*Drainage class:* Well drained  
*Landscape:* Plains  
*Landform:* Lava plains  
*Parent material:* Loess over basalt  
*Slope range:* 0 to 4 percent  
*Elevation:* 4,500 to 5,400 feet  
*Mean annual precipitation:* 9 to 12 inches  
*Mean annual air temperature:* 44 to 46 degrees F  
*Frost-free period:* 80 to 110 days  
*Taxonomic class:* Loamy, mixed, nonacid, frigid Lithic Xeric Torriorthents

#### ***Typical Pedon***

Pingree gravelly silt loam in an area of Lava flows-Pingree complex, 0 to 8 percent slopes, Butte County, Idaho, about 4 miles northwest of Atomic City, Idaho; about 1,000 feet south and 1,640 feet east of the northwest corner of section 22, T. 2 N., R. 30 E.

- A—0 to 2 inches; pale brown (10YR 6/3) gravelly silt loam, dark brown (10YR 3/3) moist; weak thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine and medium roots; many fine vesicular pores; desert pavement; 15 percent gravel, 3 percent cobbles, and 2 percent stones; slightly alkaline (pH 7.6); clear smooth boundary.
- Bw1—2 to 7 inches; pale brown (10YR 6/3) gravelly silt loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few fine tubular pores; 10 percent gravel and 5 percent stones; slightly alkaline (pH 7.6); clear smooth boundary.
- Bw2—7 to 9 inches; pale brown (10YR 6/3) cobbly silt loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine and medium roots; few fine tubular pores; 10 percent gravel, 15 percent cobbles, and 5 percent stones; moderately alkaline (pH 7.9); abrupt wavy boundary.
- 2R—9 inches; basalt.

#### ***Range in Characteristics***

*Depth to restrictive feature:* 5 to 10 inches to lithic bedrock

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—gravelly silt loam

Content of rock fragments—15 to 25 percent gravel, cobbles, and stones

Reaction—slightly alkaline

*Bw horizon:*

Hue—10YR

Value—5 to 7 dry, 4 or 5 moist

Chroma—3 or 4 dry or moist

Texture—gravelly silt loam or cobbly silt loam

Content of rock fragments—15 to 30 percent gravel, cobbles, and stones

Reaction—slightly alkaline or moderately alkaline

## ***Polatis Series***

*Depth class:* Moderately deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Loess over basalt

*Slope range:* 0 to 12 percent

*Elevation:* 4,500 to 5,400 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 80 to 110 days

*Taxonomic class:* Coarse-silty, mixed, frigid Xeric Haplocalcids

### ***Typical Pedon***

Polatis silt loam in an area of Pancheri-Polatis complex, 2 to 12 percent slopes, Butte County, Idaho, about 13 miles northeast of Atomic City, Idaho; about 1,050 feet north and 2,900 feet west of the southeast corner of section 26, T. 3 N., R. 33 E.

A—0 to 1 inch; light brownish gray (10YR 6/2) silt loam, brown (10YR 4/3) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many fine vesicular pores; 2 percent gravel and 1 percent stones; slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bw—1 to 3 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine and few medium roots; many very fine tubular pores; 1 percent gravel and 1 percent stones; moderately alkaline (pH 8.2); clear smooth boundary.

Bk1—3 to 10 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and fine and few medium roots; many very fine tubular pores; 2 percent gravel and 1 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—10 to 20 inches; very pale brown (10YR 8/3) silt loam, pale brown (10YR 6/3) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine tubular pores; many coarse hard nodules; cicada krotovinas; 2 percent gravel; violently effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of gravel; moderately alkaline (pH 8.2); clear wavy boundary.

Bk3—20 to 26 inches; very pale brown (10YR 8/3) silt loam, pale brown (10YR 6/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine tubular pores; common coarse hard nodules; cicada krotovinas; 1 percent gravel and 1 percent cobbles; violently effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 8.2); gradual wavy boundary.

Bk4—26 to 34 inches; very pale brown (10YR 7/3) silt loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and

slightly plastic; few very fine and fine roots; common very fine tubular pores; few coarse hard nodules; cicada krotovinas; 1 percent gravel and 1 percent cobbles; strongly effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 8.2); clear wavy boundary.

Bk5—34 to 39 inches; very pale brown (10YR 8/3) silt loam, pale brown (10YR 6/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores; 3 percent gravel and 5 percent cobbles; strongly effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 8.2); abrupt smooth boundary.

2R—39 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Depth to calcic horizon:* 3 to 15 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Content of rock fragments—0 to 15 percent gravel and stones

Calcium carbonate equivalent—5 to 15 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bw horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—silt loam

Content of rock fragments—0 to 15 percent gravel and cobbles

Calcium carbonate equivalent—15 to 30 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 to 8 dry, 4 to 6 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Content of rock fragments—0 to 15 percent gravel and cobbles

Calcium carbonate equivalent—15 to 30 percent

Reaction—moderately alkaline or strongly alkaline

## ***Portino Series***

*Depth class:* Moderately deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Alluvium and loess over basalt

*Slope range:* 1 to 12 percent

*Elevation:* 4,400 to 4,700 feet

*Mean annual precipitation:* 8 to 11 inches

*Mean annual air temperature:* 46 to 48 degrees F

*Frost-free period:* 100 to 120 days

*Taxonomic class:* Coarse-silty, mixed, mesic Xeric Haplocalcids

### ***Typical Pedon***

Portino loam in an area of Portino-Thornock complex, 1 to 4 percent slopes, Butte County, Idaho, about 6 miles southeast of Coffee Point; about 60 feet north and 450 feet west of the southeast corner of section 7, T. 4 S., R. 31 E.

A—0 to 4 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak thick platy structure; soft, very friable, nonsticky and nonplastic; common very fine and few medium roots; common very fine and few fine tubular pores; moderately alkaline (pH 8.2); clear smooth boundary.

Bw—4 to 7 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate coarse subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; common very fine and few medium roots; common very fine and few fine tubular pores; strongly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bk1—7 to 14 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; weak coarse subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine roots; common very fine and fine tubular pores; 10 percent firm cicada nodules; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—14 to 20 inches; very pale brown (10YR 7/3) silt loam, light yellowish brown (10YR 6/4) moist; weak coarse subangular blocky structure; soft, friable, nonsticky and nonplastic; few very fine roots; common very fine and few fine tubular pores; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk3—20 to 29 inches; very pale brown (10YR 7/3) silt loam, light yellowish brown (10YR 6/4) moist; weak fine subangular blocky structure; soft, friable, slightly sticky and nonplastic; few very fine roots; common very fine tubular pores; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2R—29 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Depth to calcic horizon:* 6 to 15 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—loam

Calcium carbonate equivalent—5 to 15 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bw horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Calcium carbonate equivalent—5 to 15 percent

Reaction—slightly alkaline or moderately alkaline



*Bk horizon:*

Hue—10YR

Value—7 or 8 dry, 5 or 6 moist

Chroma—3 or 4 dry or moist

Texture—silt loam

Calcium carbonate equivalent—15 to 30 percent

Reaction—moderately alkaline or strongly alkaline

***Povey Series****Depth class:* Deep*Drainage class:* Well drained*Landscape:* Mountains*Landform:* Mountain slopes*Parent material:* Slope alluvium and colluvium over igneous, sedimentary, and metamorphic rock*Slope range:* 30 to 60 percent*Elevation:* 6,500 to 8,500 feet*Mean annual precipitation:* 18 to 22 inches*Mean annual air temperature:* 36 to 40 degrees F*Frost-free period:* 50 to 60 days*Taxonomic class:* Loamy-skeletal, mixed Pachic Cryoborolls***Typical Pedon***

Povey gravelly loam in an area of Ketchum-Povey complex, 30 to 60 percent slopes, Butte County, Idaho, about 3 miles west and 3 miles north of the Craters of the Moon Visitor Center; about 100 feet south and 10 feet east of the northwest corner of section 16, T. 2 N., R. 24 E.

- A—0 to 6 inches; grayish brown (10YR 5/2) gravelly loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; 15 percent gravel, 2 percent cobbles, and 1 percent stones; neutral (pH 7.0); clear smooth boundary.
- Bw1—6 to 12 inches; brown (10YR 5/3) very gravelly loam, brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine and few medium roots; common very fine tubular pores; 30 percent gravel and 5 percent cobbles; neutral (pH 7.0); clear wavy boundary.
- Bw2—12 to 16 inches; brown (10YR 5/3) extremely cobbly loam, brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine and fine and common medium roots; common very fine tubular pores; 25 percent gravel, 40 percent cobbles, and 5 percent stones; neutral (pH 7.2); gradual wavy boundary.
- Bw3—16 to 32 inches; pale brown (10YR 6/3) extremely cobbly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine, fine, and medium roots; common very fine irregular pores; 35 percent gravel, 45 percent cobbles, and 5 percent stones; neutral (pH 7.2); gradual wavy boundary.
- C—32 to 55 inches; pale brown (10YR 6/3) extremely cobbly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine, fine, and medium roots;

common very fine tubular pores; 30 percent gravel, 45 percent cobbles, and 5 percent stones; slightly alkaline (pH 7.5); gradual wavy boundary.  
R—55 inches; quartzitic sandstone.

### ***Range in Characteristics***

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock  
*Thickness of mollic epipedon:* 16 to 44 inches

#### *A horizon:*

Hue—10YR  
Value—4 or 5 dry, 2 or 3 moist  
Chroma—2 or 3 dry or moist  
Texture—gravelly loam  
Content of rock fragments—15 to 35 percent gravel, cobbles, and stones  
Reaction—neutral

#### *Bw and C horizons:*

Hue—10YR  
Value—5 or 6 dry, 3 or 4 moist  
Chroma—3 or 4 dry or moist  
Texture—very gravelly loam, extremely cobbly loam, or extremely cobbly sandy loam  
Content of rock fragments—35 to 85 percent gravel, cobbles, and stones  
Reaction—neutral or slightly alkaline

## ***Riverlost Series***

*Depth class:* Very deep  
*Drainage class:* Well drained  
*Landscape:* Foothills, mountains  
*Landform:* Hillslopes, mountain slopes  
*Parent material:* Colluvium and slope alluvium derived from tuff and andesite  
*Slope range:* 5 to 40 percent  
*Elevation:* 6,000 to 7,500 feet  
*Mean annual precipitation:* 12 to 16 inches  
*Mean annual air temperature:* 37 to 44 degrees F  
*Frost-free period:* 40 to 80 days

*Taxonomic class:* Fine, montmorillonitic, frigid Calcic Haploxeralfs

### ***Typical Pedon***

Riverlost cobbly silt loam in an area of Riverlost-Frymire complex, 5 to 50 percent slopes, Butte County, Idaho, about 1 mile south of Timbered Dome and 13 miles west of Arco, Idaho; about 1,100 feet south and 500 feet west of the northeast corner of section 32, T. 4 N., R. 25 E.

A—0 to 5 inches; grayish brown (10YR 5/2) cobbly silt loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and few fine roots; 5 percent gravel and 15 percent cobbles; neutral (pH 7.2); clear smooth boundary.

Bt1—5 to 16 inches; pale brown (10YR 6/3) silty clay loam, dark yellowish brown (10YR 3/4) moist; weak coarse prismatic structure parting to weak coarse subangular blocky; hard, firm, moderately sticky and moderately plastic; common fine and very fine roots; common very fine irregular pores; many prominent clay films on faces of peds and in pores; 3 percent gravel and 1 percent cobbles; neutral (pH 7.2); gradual smooth boundary.

- Bt2**—16 to 26 inches; pale brown (10YR 6/3) silty clay loam, yellowish brown (10YR 5/4) moist; moderate coarse angular blocky structure parting to strong fine angular blocky; hard, firm, moderately sticky and moderately plastic; few very fine, fine, and coarse roots; few fine irregular pores; common distinct clay films on faces of peds and in pores; 3 percent gravel; neutral (pH 7.2); diffuse wavy boundary.
- Btk**—26 to 34 inches; light yellowish brown (10YR 6/4) clay loam, brown (10YR 5/3) moist; moderate coarse angular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few fine irregular pores; few distinct clay films on faces of peds and in pores; 3 percent gravel; slightly effervescent pockets; few threads of calcium carbonate; few coatings of calcium carbonate 1 to 2 millimeters thick on underside of gravel; moderately alkaline (pH 7.9); clear smooth boundary.
- Bk1**—34 to 48 inches; light gray (10YR 7/2) very cobbly clay loam, pale brown (10YR 6/3) moist; weak medium angular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few fine tubular pores; 10 percent gravel and 25 percent cobbles; violently effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual irregular boundary.
- Bk2**—48 to 60 inches; very pale brown (10YR 8/2) gravelly sandy loam, pale brown (10YR 6/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few fine tubular pores; 10 percent gravel and 5 percent cobbles; strongly effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to argillic horizon:* 4 to 9 inches

*Depth to secondary carbonates:* 25 to 35 inches

*Depth to calcic horizon:* 30 to 40 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—cobbly silt loam

Content of rock fragments—15 to 25 percent gravel and cobbles

Reaction—neutral or slightly alkaline

#### *Bt and Btk horizons:*

Hue—10YR

Value—5 or 6 dry, 3 to 5 moist

Chroma—3 or 4 dry or moist

Texture—silty clay loam or clay loam

Content of rock fragments—0 to 15 percent gravel and cobbles

Calcium carbonate equivalent—0 to 10 percent

Reaction—neutral to moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 to 8 dry, 4 to 6 moist

Chroma—2 or 3 dry or moist

Texture—gravelly sandy loam, gravelly clay loam, very cobbly clay loam, or extremely gravelly sandy loam

Content of rock fragments—15 to 70 percent gravel and cobbles

Calcium carbonate equivalent—15 to 30 percent  
 Reaction—slightly alkaline or moderately alkaline

### ***Sancrane Series***

*Depth class:* Very deep

*Drainage class:* Poorly drained

*Landscape:* Plains

*Landform:* Flood plains, stream terraces

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Elevation:* 5,300 to 5,700 feet

*Mean annual precipitation:* 9 to 10 inches

*Mean annual air temperature:* 39 to 41 degrees F

*Frost-free period:* 45 to 55 days

*Taxonomic class:* Fine-loamy over sandy or sandy-skeletal, mixed, calcareous Typic Cryaquepts

#### ***Typical Pedon***

Sancrane silt loam in an area of Thosand-Sancrane complex, 0 to 2 percent slopes, Butte County, Idaho, about 1 mile south of Arco, Idaho; about 900 feet north and 800 feet east of the southwest corner of section 1, T. 3 N., R. 26 E.

Oe—0 to 2 inches; moderately decomposed plant material.

Akg—2 to 5 inches; light brownish gray (2.5Y 6/2) silt loam, very dark grayish brown (2.5Y 3/2) moist; weak thin platy structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine, and medium roots; common very fine and fine irregular pores; 5 percent gravel; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bkg1—5 to 10 inches; light brownish gray (2.5Y 6/2) loam, very dark grayish brown (2.5Y 3/2) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; many very fine and fine tubular and irregular pores; 10 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bkg2—10 to 17 inches; light brownish gray (2.5Y 6/2) loam, very dark grayish brown (2.5Y 3/2) moist; few fine prominent dark yellowish brown (10YR 3/4) redoximorphic concentrations; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and moderately plastic; common fine and medium roots; common fine and medium irregular pores; 10 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bkg3—17 to 24 inches; light brownish gray (2.5Y 6/2) loam, dark grayish brown (2.5Y 4/2) moist; few fine prominent dark yellowish brown (10YR 3/4) redoximorphic concentrations; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; few very fine and fine roots; common very fine and fine irregular pores; 10 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bkg4—24 to 31 inches; grayish brown (2.5Y 5/2) loam, very dark grayish brown (2.5Y 3/2) moist; few fine prominent dark yellowish brown (10YR 4/6) redoximorphic concentrations on rock fragments; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and fine irregular pores; 10 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

2C1—31 to 41 inches; grayish brown (2.5Y 5/2) very gravelly loamy sand, dark

grayish brown (2.5Y 4/2) moist; many coarse prominent dark yellowish brown (10YR 4/6) redoximorphic concentrations on rock fragments; single grain; loose, nonsticky and nonplastic; few fine roots; many medium and coarse irregular pores; 50 percent gravel; slightly alkaline (pH 7.6); clear wavy boundary.

2C2—41 to 60 inches; grayish brown (2.5Y 5/2) extremely gravelly loamy coarse sand, dark grayish brown (2.5Y 4/2) moist; many coarse prominent dark yellowish brown (10YR 4/6) redoximorphic concentrations on rock fragments; single grain; loose, nonsticky and nonplastic; many medium and coarse irregular pores; 80 percent gravel; slightly alkaline (pH 7.6).

### ***Range in Characteristics***

*Depth to restrictive feature (2C horizon):* 20 to 35 inches to strongly contrasting textural stratification

*Frequency of ponding:* Frequent

*Depth to water table:* At the surface to a depth of 2 feet in January through December

#### *Akg horizon:*

Hue—10YR or 2.5Y

Value—6 or 7 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—25 to 35 percent

Reaction—moderately alkaline

#### *Bkg horizon:*

Hue—2.5Y or 5Y

Value—5 to 7 dry, 3 to 5 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—15 to 30 percent

Reaction—slightly alkaline or moderately alkaline

#### *2C horizon:*

Hue—2.5Y or 5Y

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly loamy sand or extremely gravelly loamy coarse sand

Content of rock fragments—45 to 80 percent gravel

Calcium carbonate equivalent—0 to 10 percent

Reaction—slightly alkaline

## ***Sanfelipe Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Mixed alluvium

*Slope range:* 0 to 12 percent

*Elevation:* 5,300 to 6,400 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 40 to 45 degrees F

*Frost-free period:* 60 to 80 days

*Taxonomic class:* Loamy-skeletal, carbonatic, frigid Aridic Calcixerolls

### ***Typical Pedon***

Sanfelipe gravelly loam, 4 to 8 percent slopes, Butte County, Idaho, about 3.6 miles northeast of Darlington, Idaho; about 90 feet north and 120 feet east of the southwest corner of section 9, T. 6 N., R. 26 E.

A—0 to 3 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak medium platy structure parting to weak fine granular; soft, very friable, nonsticky and slightly plastic; many very fine and fine roots; many very fine and fine irregular pores; 15 percent gravel; slightly effervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Bk—3 to 8 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, friable, nonsticky and slightly plastic; many very fine and fine, common medium, and few coarse roots; many very fine and fine irregular pores; 30 percent gravel; violently effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of gravel; moderately alkaline (pH 7.9); clear wavy boundary.

Bkq1—8 to 21 inches; very pale brown (10YR 7/3) extremely gravelly loam, brown (10YR 5/3) moist; moderate fine subangular blocky structure; hard, friable, nonsticky and slightly plastic; common very fine and fine and few medium roots; many very fine and fine irregular pores; 40 percent gravel and 20 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; discontinuous weak cementation; moderately alkaline (pH 7.9); clear wavy boundary.

Bkq2—21 to 31 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; many very fine and fine and few medium roots; many very fine and fine irregular pores; 45 percent gravel and 5 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); clear wavy boundary.

Bkq3—31 to 42 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; many very fine and fine and few medium roots; many very fine and fine irregular pores; 40 percent gravel; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of gravel; moderately alkaline (pH 7.9); gradual wavy boundary.

Bkq4—42 to 60 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; soft, friable, nonsticky and slightly plastic; many very fine and fine roots; many very fine and fine irregular pores; 45 percent gravel and 15 percent cobbles; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature (Bk horizon):* 2 to 15 inches to high content of carbonates

*Thickness of mollic epipedon:* 8 to 12 inches

*Depth to calcic horizon:* 2 to 15 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—loam or gravelly loam



Content of rock fragments—0 to 25 percent gravel and cobbles

Calcium carbonate equivalent—0 to 15 percent

Reaction—slightly alkaline

*Bk horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam or very gravelly loam

Content of rock fragments—30 to 55 percent gravel and cobbles

Calcium carbonate equivalent—25 to 70 percent

Reaction—slightly alkaline or moderately alkaline

*Bkq horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly loam, extremely gravelly loam, or extremely gravelly sandy loam

Content of rock fragments—40 to 60 percent gravel and cobbles

Calcium carbonate equivalent—65 to 70 percent

Reaction—slightly alkaline or moderately alkaline

## ***Shagel Series***

*Depth class:* Shallow

*Drainage class:* Well drained

*Landscape:* Foothills, mountains

*Landform:* Hillslopes, mountain slopes

*Parent material:* Colluvium derived from rhyolite

*Slope range:* 15 to 60 percent

*Elevation:* 5,000 to 7,500 feet

*Mean annual precipitation:* 10 to 14 inches

*Mean annual air temperature:* 38 to 44 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Loamy-skeletal, mixed, frigid Lithic Calcixerolls

### ***Typical Pedon***

Shagel very flaggy loam in an area of Mogg-Shagel association, 15 to 60 percent slopes, Butte County, Idaho, about 9 miles northeast of Howe, Idaho; about 1,300 feet south and 400 feet east of the northwest corner of section 26, T. 7 N., R. 30 E.

A—0 to 3 inches; grayish brown (10YR 5/2) very flaggy loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; 25 percent gravel, 2 percent stones, and 15 percent flagstones; moderately alkaline (pH 7.9); clear smooth boundary.

Bk1—3 to 7 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 30 percent gravel, 1 percent stones, and 10 percent flagstones; slightly effervescent; few coatings of calcium carbonate



1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); clear wavy boundary.

Bk2—7 to 10 inches; pale brown (10YR 6/3) very flaggy loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 25 percent gravel, 1 percent stones, and 15 percent flagstones; strongly effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2); gradual wavy boundary.

Bkq—10 to 16 inches; very pale brown (10YR 7/3) extremely gravelly loam, brown (10YR 5/3) moist; massive; slightly hard, friable, nonsticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 60 percent gravel, 1 percent stones, and 25 percent flagstones; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); abrupt irregular boundary.

R—16 inches; rhyolite.

### ***Range in Characteristics***

*Depth to restrictive feature:* 12 to 20 inches to lithic bedrock

*Thickness of mollic epipedon:* 7 to 10 inches

*Depth to calcic horizon:* 9 to 14 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—very flaggy loam

Content of rock fragments—35 to 55 percent gravel, stones, and flagstones

Calcium carbonate equivalent—0 to 5 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly loam, extremely gravelly loam, or very flaggy loam

Content of rock fragments—35 to 55 percent gravel, stones, and flagstones

Calcium carbonate equivalent—2 to 10 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bkq horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—3 or 4 dry or moist

Texture—very flaggy loam or extremely gravelly loam

Content of rock fragments—35 to 90 percent gravel, stones, and flagstones

Calcium carbonate equivalent—15 to 35 percent

Reaction—moderately alkaline or strongly alkaline

## ***Simeroi Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains, foothills

*Landform:* Fan remnants, hillslopes

*Parent material:* Alluvium, slope alluvium, and colluvium derived from limestone

*Slope range:* 1 to 60 percent

*Elevation:* 5,000 to 8,000 feet

*Mean annual precipitation:* 8 to 12 inches

*Mean annual air temperature:* 41 to 44 degrees F

*Frost-free period:* 60 to 90 days

*Taxonomic class:* Loamy-skeletal, carbonatic, frigid Xeric Haplocalcids

### ***Typical Pedon***

Simeroi gravelly silt loam in an area of Simeroi-Sparmo complex, 4 to 12 percent slopes, Butte County, Idaho, about 2 miles northeast of Moore, Idaho; about 500 feet north and 1,500 feet east of the southwest corner of sec. 14, T. 5 N., R. 26 E.

A—0 to 4 inches; brown (10YR 5/3) gravelly silt loam, dark brown (10YR 3/3) moist; moderate thin platy structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and common fine roots; common fine tubular pores; 20 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bk1—4 to 9 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and common fine roots; common very fine tubular pores; 35 percent gravel and 4 percent cobbles; strongly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

Bk2—9 to 26 inches; light brownish gray (10YR 6/2) very gravelly loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 45 percent gravel and 4 percent cobbles; violently effervescent; moderately alkaline (pH 7.9); gradual wavy boundary.

Bkq1—26 to 38 inches; light brownish gray (10YR 6/2) extremely gravelly coarse sandy loam, dark brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine and common fine and medium roots; 55 percent gravel and 5 percent cobbles; common coatings of silica 1 to 2 millimeters thick on underside of rock fragments; violently effervescent; strongly alkaline (pH 8.5); clear irregular boundary.

Bkq2—38 to 55 inches; pale brown (10YR 6/3) very gravelly sandy loam, dark brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine tubular pores; 45 percent gravel and 5 percent cobbles; common coatings of silica 1 to 2 millimeters thick on underside of rock fragments; violently effervescent; strongly alkaline (pH 8.5); gradual wavy boundary.

Bkq3—55 to 60 inches; grayish brown (10YR 5/2) very gravelly sandy loam, dark brown (10YR 3/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 45 percent gravel and 10 percent cobbles; strongly effervescent; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature (Bk horizon):* 2 to 15 inches to high content of carbonates

*Depth to calcic horizon:* 2 to 15 inches

*A horizon:*

Hue—10YR

Value—5 to 7 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—gravelly silt loam  
 Content of rock fragments—15 to 35 percent gravel  
 Calcium carbonate equivalent—5 to 10 percent  
 Reaction—slightly alkaline or moderately alkaline

*Bk and Bkq horizons:*

Hue—10YR  
 Value—5 to 7 dry, 3 or 4 moist  
 Chroma—2 or 3 dry or moist  
 Texture—very gravelly loam, very gravelly sandy loam, or extremely gravelly coarse sandy loam  
 Content of rock fragments—40 to 85 percent gravel and cobbles  
 Calcium carbonate equivalent—30 to 70 percent  
 Reaction—slightly alkaline to strongly alkaline

## **Skibo Series**

*Depth class:* Very deep  
*Drainage class:* Well drained  
*Landscape:* Foothills, mountains  
*Landform:* Hillslopes, mountain slopes  
*Parent material:* Colluvium derived from limestone  
*Slope range:* 20 to 60 percent  
*Elevation:* 6,600 to 9,000 feet  
*Mean annual precipitation:* 12 to 18 inches  
*Mean annual air temperature:* 32 to 40 degrees F  
*Frost-free period:* 30 to 60 days  
*Taxonomic class:* Loamy-skeletal, carbonatic Calcic Cryoborolls

### **Typical Pedon**

Skibo gravelly loam in an area of Jimbee-Skibo-Ike association, 20 to 60 percent slopes, Butte County, Idaho, about 0.5 mile southeast of Hawley Mountain; about 800 feet north and 2,100 feet east of the southwest corner of section 23, T. 9 N., R. 26 E.

- A—0 to 4 inches; grayish brown (10YR 5/2) gravelly loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine roots; many very fine irregular pores; 20 percent gravel, 5 percent cobbles, and 2 percent stones; strongly effervescent; slightly alkaline (pH 7.6); clear smooth boundary.
- Bk1—4 to 10 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 25 percent gravel, 10 percent cobbles, and 5 percent stones; violently effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; slightly alkaline (pH 7.6); gradual wavy boundary.
- Bk2—10 to 18 inches; light yellowish brown (10YR 6/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine and common medium roots; common very fine tubular pores; 40 percent gravel, 10 percent cobbles, and 5 percent stones; strongly effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.

Bk3—18 to 26 inches; pale brown (10YR 6/3) very gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine, fine, and medium roots; common very fine tubular pores; 45 percent gravel, 10 percent cobbles, and 5 percent stones; violently effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.

Bk4—26 to 31 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine, fine, and medium roots; common very fine tubular pores; 40 percent gravel, 10 percent cobbles, and 5 percent stones; violently effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.

Bk5—31 to 60 inches; pale brown (10YR 6/3) extremely gravelly loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine, fine, and medium roots; few very fine tubular pores; 55 percent gravel, 5 percent cobbles, and 5 percent stones; violently effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature (Bk horizon):* 2 to 15 inches to high content of carbonates

*Thickness of mollic epipedon:* 8 to 12 inches

*Depth to calcic horizon:* 2 to 15 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 35 percent gravel, cobbles, and stones

Calcium carbonate equivalent—0 to 10 percent

Reaction—slightly alkaline

#### *Bk horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly loam or extremely gravelly loam

Content of rock fragments—50 to 85 percent gravel, cobbles, and stones

Calcium carbonate equivalent—40 to 80 percent

Reaction—slightly alkaline or moderately alkaline

### ***Slide Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains, foothills

*Landform:* Fan remnants, hillslopes

*Parent material:* Slope alluvium and colluvium

*Slope range:* 1 to 45 percent

*Elevation:* 4,500 to 6,500 feet

*Mean annual precipitation:* 7 to 11 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 70 to 80 days

*Taxonomic class:* Loamy-skeletal, carbonatic, frigid Typic Haplocalcids

### ***Typical Pedon***

Slide gravelly loam, 2 to 10 percent slopes, Butte County, Idaho, about 10 miles east of Howe, Idaho; about 2,300 feet north and 15 feet west of the southeast corner of section 14, T. 6 N., R. 29 E.

A—0 to 3 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; weak thin platy structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 20 percent gravel and 2 percent cobbles; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bw—3 to 9 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and few medium roots; common very fine tubular pores; 35 percent gravel and 3 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk—9 to 18 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine, fine, and medium roots; common very fine tubular pores; 45 percent gravel and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); gradual wavy boundary.

Bkq1—18 to 24 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; many very fine and fine and few medium roots; common very fine tubular pores; 55 percent gravel and 5 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2); gradual wavy boundary.

Bkq2—24 to 32 inches; light brownish gray (10YR 6/2) extremely gravelly sandy loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine tubular pores; 55 percent gravel and 10 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2); gradual wavy boundary.

Bkq3—32 to 60 inches; light gray (10YR 7/2) extremely gravelly loamy sand, grayish brown (10YR 5/2) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine and fine roots; common very fine tubular pores; 55 percent gravel and 10 percent cobbles; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature (Bkq horizon):* 5 to 18 inches to high content of carbonates

*Depth to calcic horizon:* 7 to 12 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 34 percent gravel and cobbles

Calcium carbonate equivalent—20 to 40 percent

Reaction—slightly alkaline or moderately alkaline

*Bw and Bk horizons:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—3 or 4 dry or moist

Texture—gravelly loam, gravelly silt loam, very gravelly loam, or very gravelly sandy loam

Content of rock fragments—25 to 50 percent gravel and cobbles

Calcium carbonate equivalent—20 to 40 percent

Reaction—moderately alkaline

*Bkq horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly silt loam, very gravelly sandy loam, extremely gravelly sandy loam, or extremely gravelly loamy sand

Content of rock fragments—35 to 65 percent gravel and cobbles

Calcium carbonate equivalent—40 to 70 percent

Reaction—moderately alkaline

***Snowslide Series****Depth class:* Very deep*Drainage class:* Well drained*Landscape:* Plains, foothills*Landform:* Fan remnants, hillslopes, ridges*Parent material:* Slope alluvium and colluvium derived from limestone and quartzite*Slope range:* 1 to 35 percent*Elevation:* 4,500 to 6,600 feet*Mean annual precipitation:* 8 to 10 inches*Mean annual air temperature:* 40 to 43 degrees F*Frost-free period:* 60 to 80 days*Taxonomic class:* Loamy-skeletal, mixed, frigid Typic Haplocalcids***Typical Pedon***

Snowslide gravelly loam in an area of Snowslide-Zer complex, 1 to 5 percent slopes, Butte County, Idaho, about 10 miles southeast of Clyde, Idaho; about 4,250 feet north and 2,250 feet east of the southwest corner of section 28, T. 8 N., R. 28 E.

A1—0 to 2 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; moderate medium platy structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine and fine roots; common very fine vesicular pores; 25 percent gravel and 3 percent cobbles; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

A2—2 to 7 inches; very pale brown (10YR 7/3) gravelly loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; 25 percent gravel and 5 percent cobbles; strongly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

Bk1—7 to 13 inches; pale brown (10YR 6/3) very gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine and common medium



roots; common very fine tubular pores; 40 percent gravel and 5 percent cobbles; strongly effervescent; few coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—13 to 25 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine, fine, and medium roots; common very fine tubular pores; 55 percent gravel and 10 percent cobbles; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); clear wavy boundary.

Bk3—25 to 34 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine tubular pores; 55 percent gravel and 5 percent cobbles; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.

Bk4—34 to 43 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine tubular pores; 55 percent gravel and 10 percent cobbles; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.

Bk5—43 to 60 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine tubular pores; 45 percent gravel and 15 percent cobbles; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to calcic horizon:* 3 to 10 inches

#### *A horizon:*

Hue—10YR

Value—5 to 7 dry, 3 to 5 moist

Chroma—2 to 4 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 35 percent gravel and cobbles

Calcium carbonate equivalent—0 to 25 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly loam, very gravelly sandy loam, or extremely gravelly sandy loam

Content of rock fragments—40 to 85 percent gravel and cobbles

Calcium carbonate equivalent—15 to 35 percent

Reaction—slightly alkaline or moderately alkaline

Sodium absorption ratio—5 to 10



## ***Soelberg Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Mixed alluvium

*Slope range:* 0 to 8 percent

*Elevation:* 5,000 to 5,600 feet

*Mean annual precipitation:* 11 to 13 inches

*Mean annual air temperature:* 30 to 42 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Fine-loamy over sandy or sandy-skeletal, mixed, frigid Aridic Calcic Argixerolls

### ***Typical Pedon***

Soelberg loam in an area of Techick-Soelberg-Lesbut complex, 0 to 4 percent slopes, Butte County, Idaho, about 3 miles south of Moore, Idaho; about 600 feet north and 700 feet east of the southwest corner of section 9, T. 4 N., R. 26 E.

- A1—0 to 3 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine irregular pores; 3 percent gravel; neutral (pH 7.2); clear smooth boundary.
- A2—3 to 10 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 2 percent gravel; neutral (pH 7.2); clear wavy boundary.
- Bt1—10 to 17 inches; yellowish brown (10YR 5/4) clay loam, dark yellowish brown (10YR 3/4) moist; moderate medium prismatic structure parting to moderate fine subangular blocky; slightly hard, firm, slightly sticky and moderately plastic; common very fine, fine, and medium roots; common very fine tubular and irregular pores; common faint clay films on faces of peds and lining pores; 1 percent gravel; moderately alkaline (pH 7.9); clear wavy boundary.
- Bt2—17 to 28 inches; yellowish brown (10YR 5/4) loam, dark yellowish brown (10YR 4/4) moist; moderate fine prismatic structure parting to moderate fine subangular blocky; slightly hard, firm, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; few faint clay films on faces of peds and lining pores; 3 percent gravel; moderately alkaline (pH 7.9); clear wavy boundary.
- Bk—28 to 36 inches; very pale brown (10YR 8/3) gravelly loam, pale brown (10YR 6/3) moist; moderate thin platy structure; hard, firm, slightly sticky and slightly plastic; few very fine roots; common very fine irregular pores; 30 percent gravel and 2 percent cobbles; strongly effervescent; many coatings of calcium carbonate on all sides of rock fragments; moderately alkaline (pH 8.2); clear wavy boundary.
- 2Bkq—36 to 40 inches; brown (10YR 5/3) extremely gravelly loamy coarse sand, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine tubular pores; 60 percent gravel and 5 percent cobbles; slightly effervescent; many coatings of calcium carbonate and silica on all sides of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.
- 2Bq—40 to 60 inches; brown (10YR 5/3) extremely gravelly sand, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; hard, friable, nonsticky and

nonplastic; few very fine roots; common very fine irregular pores; 65 percent gravel and 5 percent cobbles; many coatings of silica on all sides of rock fragments; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature (2Bkq horizon):* 30 to 40 inches to strongly contrasting textural stratification

*Thickness of mollic epipedon:* 10 to 12 inches

*Depth to argillic horizon:* 10 to 12 inches

*Depth to calcic horizon:* 20 to 30 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 10 percent gravel

Reaction—neutral or slightly alkaline

#### *Bt horizon:*

Hue—10YR

Value—4 or 5 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—loam or clay loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—0 to 10 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 to 8 dry or moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—20 to 35 percent gravel and cobbles

Calcium carbonate equivalent—15 to 25 percent

Reaction—moderately alkaline

#### *2Bkq and 2Bq horizons:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly coarse sand, extremely gravelly loamy sand, extremely gravelly loamy coarse sand, extremely gravelly sand, or extremely gravelly coarse sand

Content of rock fragments—55 to 80 percent gravel and cobbles

Calcium carbonate equivalent—0 to 15 percent

Reaction—slightly alkaline or moderately alkaline

## ***Soen Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains, foothills

*Landform:* Fan remnants, hillslopes

*Parent material:* Mixed alluvium

*Slope range:* 0 to 30 percent

*Elevation:* 5,400 to 7,500 feet

*Mean annual precipitation:* 12 to 14 inches

*Mean annual air temperature:* 40 to 44 degrees F

*Frost-free period:* 60 to 80 days

*Taxonomic class:* Fine, montmorillonitic, frigid Calcic Argixerolls

### ***Typical Pedon***

Soen clay loam, 0 to 4 percent slopes, Butte County, Idaho, about 3 miles southwest of Moore, Idaho; about 100 feet south and 700 feet west of the northeast corner of section 7, T. 4 N., R. 26 E.

A—0 to 7 inches; brown (10YR 4/3) clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, firm, slightly sticky and moderately plastic; many very fine and fine and few medium roots; common very fine and fine irregular pores; neutral (pH 7.2); clear smooth boundary.

Bt—7 to 17 inches; brown (10YR 4/3) silty clay loam, dark yellowish brown (10YR 4/4) moist; strong coarse angular blocky structure; very hard, very firm, very sticky and very plastic; common very fine and fine roots; common very fine irregular pores; many distinct clay films on faces of peds; slightly alkaline (pH 7.5); clear smooth boundary.

Btk—17 to 22 inches; brown (10YR 5/3) silty clay loam, brown (10YR 4/3) moist; moderate medium angular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; common fine irregular pores; few faint clay films on faces of peds; few threads of calcium carbonate; slightly effervescent; slightly alkaline (pH 7.5); clear smooth boundary.

Bk—22 to 60 inches; pale brown (10YR 6/3) silt loam, yellowish brown (10YR 5/4) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; common fine irregular pores; many threads of calcium carbonate; strongly effervescent; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 7 to 19 inches

*Depth to argillic horizon:* 7 to 19 inches

*Depth to calcic horizon:* 14 to 30 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—clay loam

Reaction—neutral or slightly alkaline

*Bt and Btk horizons:*

Hue—10YR

Value—4 or 5 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—silty clay loam

Calcium carbonate equivalent—0 to 10 percent

Reaction—neutral to moderately alkaline

*Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 5 or 6 moist

Chroma—3 or 4 dry or moist

Texture—silt loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—15 to 25 percent

Reaction—slightly alkaline to strongly alkaline

## ***Sparmo Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Mixed alluvium, slope alluvium, and colluvium

*Slope range:* 1 to 12 percent

*Elevation:* 4,800 to 6,500 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 36 to 44 degrees F

*Frost-free period:* 40 to 90 days

*Taxonomic class:* Coarse-loamy, mixed, frigid Xeric Haplocalcids

### ***Typical Pedon***

Sparmo silt loam, 1 to 4 percent slopes, Butte County, Idaho, about 10 miles north of Moore, Idaho; about 120 feet north and 2,400 feet west of the southeast corner of section 5, T. 6 N., R. 26 E.

A—0 to 3 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak thin to medium platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine and fine tubular pores; 5 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bw—3 to 9 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; 2 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

Bk1—9 to 22 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, and medium roots; common very fine tubular pores; 2 percent gravel; violently effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

Bk2—22 to 29 inches; light brownish gray (10YR 6/2) gravelly loam, dark grayish brown (10YR 4/2) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; many very fine and few fine and medium roots; common very fine tubular pores; 30 percent gravel; violently effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

Bk3—29 to 40 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine tubular pores; 5 percent gravel; violently effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

2Bk4—40 to 52 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; few very fine roots; common very fine tubular pores; 35 percent gravel; violently effervescent; strongly alkaline (pH 8.5); gradual wavy boundary.

2Bk5—52 to 60 inches; light yellowish brown (10YR 6/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; common fine and medium subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; few very fine roots; few very fine tubular pores; 35 percent gravel; strongly effervescent; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to calcic horizon:* 2 to 10 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—5 to 10 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bw horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—silt loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—5 to 10 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 to 8 dry, 4 to 6 moist

Chroma—2 or 3 dry or moist

Texture—silt loam or gravelly loam

Content of rock fragments—0 to 35 percent gravel

Calcium carbonate equivalent—10 to 40 percent

Reaction—moderately alkaline or strongly alkaline

#### *2Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—3 or 4 dry or moist

Texture—very gravelly loam

Content of rock fragments—35 to 55 percent gravel

Calcium carbonate equivalent—10 to 30 percent

Reaction—moderately alkaline or strongly alkaline

## ***Splittop Series***

*Depth class:* Moderately deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Eolian deposits over basalt

*Slope range:* 0 to 8 percent

*Elevation:* 4,500 to 5,500 feet

*Mean annual precipitation:* 9 to 12 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 70 to 110 days

*Taxonomic class:* Coarse-silty, mixed, frigid Xeric Haplocalcids

### ***Typical Pedon***

Splittop loam in an area of Splittop-Coffee complex, 0 to 8 percent slopes, Butte County, Idaho, about 0.5 mile north of Coffee Point; about 2,000 feet north and 650 feet east of the southwest corner of section 27, T. 3 S., R. 30 E.

A—0 to 3 inches; pale brown (10YR 6/3) loam, dark brown (10YR 3/3) moist; weak thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many fine vesicular pores; 10 percent gravel; neutral (pH 7.2); abrupt smooth boundary.

Bw—3 to 8 inches; yellowish brown (10YR 5/4) silt loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; few very fine tubular pores; 5 percent gravel; moderately alkaline (pH 7.9); abrupt smooth boundary.

Bk1—8 to 12 inches; very pale brown (10YR 7/3) silt loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine and common coarse roots; few very fine tubular pores; few coarse hard rounded nodules; cicada krotovinas; 4 percent gravel; violently effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of gravel; moderately alkaline (pH 8.2); clear smooth boundary.

Bk2—12 to 26 inches; very pale brown (10YR 8/3) silt loam, pale brown (10YR 6/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular pores; few coarse hard rounded nodules; cicada krotovinas; 5 percent gravel; violently effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of gravel; moderately alkaline (pH 8.2); gradual smooth boundary.

Bk3—26 to 32 inches; very pale brown (10YR 8/2) loam, pale brown (10YR 6/3) moist; massive; hard, firm, slightly sticky and slightly plastic; few very fine roots, some root matting; few very fine irregular pores; few medium and coarse nodules; cicada krotovinas; 5 percent gravel and 5 percent cobbles; violently effervescent; common coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 8.2); abrupt smooth boundary.

2R—32 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Depth to calcic horizon:* 3 to 10 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—loam or silt loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—0 to 5 percent

Reaction—neutral or slightly alkaline

*Bw horizon, where present:*

Hue—10YR

Value—5 or 6 dry, 3 to 5 moist

Chroma—3 or 4 dry or moist

Texture—loam or silt loam  
Content of rock fragments—0 to 15 percent gravel  
Calcium carbonate equivalent—0 to 5 percent  
Reaction—slightly alkaline or moderately alkaline

*Bk horizon:*

Hue—10YR  
Value—7 or 8 dry, 5 or 6 moist  
Chroma—2 or 3 dry or moist  
Texture—loam or silt loam  
Content of rock fragments—0 to 15 percent gravel  
Calcium carbonate equivalent—15 to 30 percent  
Reaction—moderately alkaline or strongly alkaline

## ***Stan Series***

*Depth class:* Very deep  
*Drainage class:* Well drained  
*Landscape:* Plains  
*Landform:* Fan remnants  
*Parent material:* Mixed alluvium  
*Slope range:* 1 to 4 percent  
*Elevation:* 5,200 to 5,500 feet  
*Mean annual precipitation:* 10 to 13 inches  
*Mean annual air temperature:* 40 to 45 degrees F  
*Frost-free period:* 80 to 100 days  
*Taxonomic class:* Coarse-loamy, mixed, frigid Aridic Calcixerolls

### ***Typical Pedon***

Stan sandy loam in an area of Stan-Breitenbach complex, 1 to 4 percent slopes, Butte County, Idaho, about 1 mile northeast of Butte City, Idaho; about 3,500 feet north and 1,600 feet west of the southeast corner of section 5, T. 3 N., R. 27 E.

A1—0 to 2 inches; brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine irregular pores; 5 percent gravel; moderately alkaline (pH 7.9); clear smooth boundary.

A2—2 to 10 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 5 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); gradual wavy boundary.

Bw—10 to 13 inches; brown (10YR 5/3) loam, brown (10YR 4/3) moist; weak thick platy structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine and fine and many medium roots; common very fine tubular pores; 1 percent gravel and 1 percent cobbles; moderately effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

Bk1—13 to 33 inches; very pale brown (10YR 7/3) gravelly loam, brown (10YR 5/3) moist; moderate thick platy structure; slightly hard, friable, nonsticky and slightly plastic; few very fine, fine, and medium roots; common very fine tubular pores; 25 percent gravel; violently effervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.

Bk2—33 to 40 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3)



moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine and fine roots; common very fine tubular pores; 30 percent gravel and 1 percent cobbles; strongly effervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.

2Bk3—40 to 60 inches; light brownish gray (10YR 6/2) very gravelly loamy sand, dark brown (10YR 3/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; common very fine irregular pores; 45 percent gravel and 10 percent cobbles; very slightly effervescent; common coatings of calcium carbonate 2 to 3 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature (2Bk horizon):* 40 to 60 inches to strongly contrasting textural stratification

*Thickness of mollic epipedon:* 10 to 16 inches

*Depth to calcic horizon:* 12 to 20 inches

#### *A1 horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—sandy loam or loamy fine sand

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—2 to 5 percent

Reaction—slightly alkaline or moderately alkaline

#### *A2 and Bw horizons:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—loam or loamy fine sand

Content of rock fragments—0 to 15 percent gravel and cobbles

Calcium carbonate equivalent—5 to 10 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—fine sandy loam, gravelly loam, gravelly sandy loam, or gravelly loamy fine sand

Content of rock fragments—0 to 35 percent gravel and cobbles

Calcium carbonate equivalent—15 to 25 percent in upper part, 5 to 10 percent in lower part

Reaction—slightly alkaline or moderately alkaline

#### *2Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly loamy sand

Content of rock fragments—35 to 60 percent gravel and cobbles

Calcium carbonate equivalent—2 to 5 percent

Reaction—slightly alkaline or moderately alkaline

## ***Starlite Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Basins

*Landform:* Basin floors, valleys

*Parent material:* Lacustrine deposits

*Slope range:* 0 to 4 percent

*Elevation:* 4,700 to 5,800 feet

*Mean annual precipitation:* 8 to 11 inches

*Mean annual air temperature:* 39 to 45 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Coarse-silty, carbonatic, frigid Petronodic Haplocalcids

### ***Typical Pedon***

Starlite loam, 0 to 4 percent slopes, Butte County, Idaho, about 5 miles east of Howe, Idaho; about 300 feet north and 500 feet west of the southeast corner of section 31, T. 6 N., R. 30 E.

- A—0 to 5 inches; light brownish gray (10YR 6/2) loam, brown (10YR 4/3) moist; weak fine and medium granular structure; soft, very friable, slightly sticky and nonplastic; common very fine and fine roots; common very fine and fine irregular pores; strongly effervescent; strongly alkaline (pH 8.5); clear smooth boundary.
- Bw—5 to 14 inches; light brownish gray (10YR 6/2) loam, brown (10YR 4/3) moist; weak medium subangular blocky structure parting to moderate medium granular; soft, very friable, slightly sticky and nonplastic; common very fine and fine roots; common very fine and fine tubular pores; strongly effervescent; strongly alkaline (pH 8.5); clear smooth boundary.
- Bk1—14 to 23 inches; light brownish gray (2.5Y 6/2) loam, dark grayish brown (2.5Y 4/2) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; common very fine roots; few very fine tubular pores; 20 percent cicada nodules; violently effervescent; common masses of calcium carbonate 1 to 2 millimeters thick on faces of peds; strongly alkaline (pH 8.5); clear smooth boundary.
- Bk2—23 to 32 inches; light brownish gray (2.5Y 6/2) silt loam, dark grayish brown (2.5Y 4/2) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; few fine roots; few very fine tubular pores; 30 percent cicada nodules; violently effervescent; common masses of calcium carbonate 1 to 2 millimeters thick on faces of peds; strongly alkaline (pH 8.5); clear smooth boundary.
- Bk3—32 to 37 inches; light gray (10YR 7/2) silty clay loam, grayish brown (10YR 5/2) moist; common medium distinct yellowish brown (10YR 5/4) redoximorphic concentrations; weak medium platy structure parting to moderate medium subangular blocky; hard, friable, moderately sticky and moderately plastic; few fine roots; 35 percent cicada nodules; violently effervescent; many masses of calcium carbonate 1 to 2 millimeters thick on faces of peds; strongly alkaline (pH 8.5); clear smooth boundary.
- Bk4—37 to 41 inches; light brownish gray (2.5Y 6/2) silt loam, dark grayish brown (2.5Y 4/2) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; slightly hard, friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; violently effervescent; few masses of calcium

carbonate 1 millimeter thick on faces of peds; strongly alkaline (pH 8.5); clear smooth boundary.

Bk5—41 to 47 inches; light gray (10YR 7/1) silt loam, grayish brown (10YR 5/2) moist; common medium distinct yellowish brown (10YR 5/4) redoximorphic concentrations; weak medium platy structure parting to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; strongly effervescent; few masses of calcium carbonate 1 millimeter thick on faces of peds; strongly alkaline (pH 8.5); clear smooth boundary.

Bk6—47 to 60 inches; gray (10YR 5/1) very fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure parting to weak fine subangular blocky; slightly hard, friable, nonsticky and nonplastic; few very fine roots; strongly effervescent; few masses of calcium carbonate 1 millimeter thick on faces of peds; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Depth to calcic horizon:* 10 to 20 inches

*A and Bw horizons:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—loam

Calcium carbonate equivalent—20 to 30 percent

Reaction—moderately alkaline or strongly alkaline

*Bk horizon:*

Hue—10YR or 2.5Y

Value—5 to 7 dry, 3 to 5 moist

Chroma—1 to 3 dry or moist

Texture—loam, silt loam, very fine sandy loam, silty clay loam, or gravelly loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—35 to 45 percent

Reaction—moderately alkaline or strongly alkaline

### ***Techick Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Mixed alluvium

*Slope range:* 0 to 8 percent

*Elevation:* 5,000 to 5,600 feet

*Mean annual precipitation:* 11 to 13 inches

*Mean annual air temperature:* 38 to 42 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Fine-loamy, mixed, frigid Aridic Calcic Argixerolls

### ***Typical Pedon***

Techick loam in an area of Techick-Soelberg-Lesbut complex, 0 to 4 percent slopes, Butte County, Idaho, about 1.5 miles southeast of Arco, Idaho; about 1,800 feet south and 2,000 feet east of the northwest corner of section 11, T. 3 N., R. 26 E.

- A—0 to 4 inches; yellowish brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate thin platy structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and common fine roots; many very fine irregular pores; 10 percent gravel; neutral (pH 7.2); abrupt smooth boundary.
- Bt—4 to 12 inches; yellowish brown (10YR 5/4) clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and moderately plastic; common very fine, fine, and medium roots; common very fine tubular and irregular pores; common prominent clay films on faces of peds and lining pores; slightly alkaline (pH 7.4); clear wavy boundary.
- Btk—12 to 25 inches; very pale brown (10YR 8/3) clay loam, pale brown (10YR 6/3) moist; moderate fine subangular blocky structure; hard, firm, slightly sticky and moderately plastic; common very fine, fine, and medium roots; common very fine irregular pores; few distinct clay films on faces of peds; strongly effervescent; common soft masses of calcium carbonate; moderately alkaline (pH 7.9); gradual wavy boundary.
- Bk—25 to 46 inches; very pale brown (10YR 7/3) loam, dark yellowish brown (10YR 4/4) moist; weak coarse prismatic structure parting to moderate medium prismatic; hard, friable, slightly sticky and slightly plastic; few fine and very fine roots; few very fine irregular pores; 5 percent gravel; strongly effervescent; prominent coatings of calcium carbonate on faces of peds and in root channels; moderately alkaline (pH 7.9); abrupt wavy boundary.
- 2Bq—46 to 60 inches; grayish brown (10YR 5/2) extremely gravelly sand, very dark grayish brown (10YR 3/2) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; 55 percent gravel and 5 percent cobbles; common silica coatings 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature (2Bq horizon):* 40 to 50 inches to strongly contrasting textural stratification

*Thickness of mollic epipedon:* 8 to 15 inches

*Depth to calcic horizon:* 8 to 15 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 15 percent gravel

Reaction—neutral or slightly alkaline

#### *Bt horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—3 or 4 dry or moist

Texture—loam, clay loam, or silty clay loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—0 to 5 percent

Reaction—slightly alkaline

#### *Btk and Bk horizons:*

Hue—10YR

Value—6 to 8 dry, 4 to 6 moist

Chroma—3 or 4 dry or moist

Texture—loam, sandy loam, clay loam, silty clay loam, or gravelly loam

Content of rock fragments—0 to 20 percent gravel

Calcium carbonate equivalent—15 to 25 percent

Reaction—slightly alkaline or moderately alkaline

2Bq horizon:

Hue—10YR

Value—4 to 7 dry, 2 to 4 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly sand, extremely gravelly loamy sand, or extremely gravelly sand

Content of rock fragments—50 to 75 percent gravel and cobbles

Reaction—slightly alkaline or moderately alkaline

### ***Techicknot Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Depressions of lava plains

*Parent material:* Mixed alluvium

*Slope range:* 0 to 12 percent

*Elevation:* 4,500 to 5,800 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 100 days

*Taxonomic class:* Fine-loamy, mixed, frigid Aridic Calcic Argixerolls

### ***Typical Pedon***

Techicknot loam in an area of Techicknot-Atom-Nargon complex, 0 to 12 percent slopes, Butte County, Idaho, about 7 miles south of Arco, Idaho; about 75 feet south and 2,000 feet west of the northeast corner of section 1, T. 2 N., R. 26 E.

A—0 to 4 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; 2 percent gravel; slightly alkaline (pH 7.6); clear smooth boundary.

Bt1—4 to 12 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many fine and very fine roots; common very fine tubular pores; few faint clay films on faces of peds; 3 percent gravel; moderately alkaline (pH 7.9); clear smooth boundary.

Bt2—12 to 29 inches; brown (10YR 5/3) clay loam, dark yellowish brown (10YR 3/4) moist; weak medium prismatic structure parting to moderate fine subangular blocky; slightly hard, friable, slightly sticky and moderately plastic; common very fine and fine roots; common very fine tubular and irregular pores; few faint clay films on faces of peds; 3 percent gravel; moderately alkaline (pH 7.9); clear smooth boundary.

Bk1—29 to 48 inches; very pale brown (10YR 7/3) loam, brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; many hard coarse rounded nodules or cicada krotovinas; 3 percent gravel; violently effervescent; moderately alkaline (pH 7.9); gradual smooth boundary.

Bk2—48 to 60 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; massive; slightly hard, friable, moderately sticky and slightly plastic; few very fine

roots; common very fine tubular pores; 5 percent gravel; strongly effervescent; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 10 to 15 inches

*Depth to argillic horizon:* 2 to 8 inches

*Depth to calcic horizon:* 20 to 33 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 5 percent gravel

Reaction—slightly alkaline

#### *Bt horizon:*

Hue—10YR

Value—4 to 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—loam, clay loam, or silty clay loam

Content of rock fragments—0 to 10 percent gravel

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—loam, silt loam, clay loam, or silty clay loam

Content of rock fragments—0 to 15 percent gravel

Calcium carbonate equivalent—15 to 30 percent

Reaction—slightly alkaline to strongly alkaline

## ***Tenno Series***

*Depth class:* Shallow

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Loess over basalt

*Slope range:* 1 to 8 percent

*Elevation:* 5,000 to 5,500 feet

*Mean annual precipitation:* 10 to 12 inches

*Mean annual air temperature:* 41 to 45 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Loamy, mixed, frigid Lithic Xeric Haplocambids

### ***Typical Pedon***

Tenno loam in an area of Tenno-Splittop-Lava flows complex, 4 to 8 percent slopes, Butte County, Idaho, about 2.5 miles west of Arco, Idaho; about 1,290 feet north and 1,500 feet west of the southeast corner of section 29, T. 4 N., R. 26 E.

A—0 to 4 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak thin

platy structure; slightly hard, friable, nonsticky and slightly plastic; common very fine and fine roots; many very fine and fine irregular pores; 4 percent stones; slightly alkaline (pH 7.6); clear smooth boundary.

Bw—4 to 13 inches; yellowish brown (10YR 5/4) loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and very fine roots; common very fine and fine tubular pores; 5 percent stones; moderately alkaline (pH 7.9); clear wavy boundary.

Bk—13 to 18 inches; light gray (10YR 7/2) loam, grayish brown (10YR 5/2) moist; moderate medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 10 percent stones; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2R—18 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Depth to secondary carbonates:* 10 to 18 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 15 percent stones

Reaction—slightly alkaline

#### *Bw horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 or 4 dry or moist

Texture—loam

Content of rock fragments—0 to 15 percent stones

Calcium carbonate equivalent—0 to 15 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 15 percent stones

Calcium carbonate equivalent—15 to 20 percent

Reaction—slightly alkaline to strongly alkaline

## ***Thornock Series***

*Depth class:* Shallow

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Lava plains

*Parent material:* Mixed alluvium and loess over basalt

*Slope range:* 1 to 12 percent

*Elevation:* 4,400 to 4,700 feet

*Mean annual precipitation:* 8 to 11 inches



*Mean annual air temperature:* 45 to 48 degrees F

*Frost-free period:* 100 to 120 days

*Taxonomic class:* Loamy, mixed, mesic Lithic Xeric Haplocalcids

### ***Typical Pedon***

Thornock stony loam in an area of Portino-Thornock complex, 1 to 4 percent slopes, Butte County, Idaho, about 6 miles southeast of Coffee Point; about 2,480 feet north and 2,490 feet west of the southeast corner of section 33, T. 3 S., R. 31 E.

A1—0 to 5 inches; pale brown (10YR 6/3) stony loam, brown (10YR 4/3) moist; weak very thick platy structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; 5 percent gravel and 10 percent stones; neutral (pH 7.2); abrupt smooth boundary.

A2—5 to 10 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine and fine tubular pores; 5 percent gravel; slightly effervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Bk—10 to 16 inches; very pale brown (10YR 7/3) cobbly loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; common very fine roots; few very fine and fine tubular pores; 25 percent firm cicada nodules; 5 percent gravel and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); abrupt irregular boundary.

R—16 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 10 to 20 inches to lithic bedrock

*Depth to calcic horizon:* 6 to 12 inches

#### *A1 horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—stony loam

Content of rock fragments—15 to 35 percent gravel and stones

Calcium carbonate equivalent—0 to 5 percent

Reaction—neutral or slightly alkaline

#### *A2 horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Content of rock fragments—5 to 15 percent gravel

Calcium carbonate equivalent—5 to 15 percent

Reaction—slightly alkaline

#### *Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—loam or cobbly loam

Content of rock fragments—5 to 35 percent gravel and cobbles

Calcium carbonate equivalent—15 to 25 percent

Reaction—slightly alkaline to strongly alkaline

## ***Thosand Series***

*Depth class:* Very deep

*Drainage class:* Poorly drained

*Landscape:* Plains

*Landform:* Flood plains, stream terraces

*Parent material:* Mixed alluvium

*Slope range:* 0 to 2 percent

*Elevation:* 5,300 to 5,700 feet

*Mean annual precipitation:* 9 to 10 inches

*Mean annual air temperature:* 39 to 41 degrees F

*Frost-free period:* 45 to 55 days

*Taxonomic class:* Fine-loamy, mixed, calcareous Calcic Cryaquolls

### ***Typical Pedon***

Thosand silt loam in an area of Thosand-Sancrane complex, 0 to 2 percent slopes, Butte County, Idaho, about 1 mile south of Arco, Idaho; about 800 feet north and 800 feet east of the southwest corner of section 1, T. 3 N., R. 26 E.

Akg—0 to 3 inches; grayish brown (2.5Y 5/2) silt loam, very dark grayish brown (2.5Y 3/2) moist; weak thin platy structure parting to weak fine granular; soft, very friable, nonsticky and nonplastic; many very fine and fine and few medium roots; many very fine and fine irregular pores; strongly effervescent; slightly alkaline (pH 7.6); clear smooth boundary.

Bkg1—3 to 16 inches; grayish brown (2.5Y 5/2) silt loam, dark grayish brown (2.5Y 4/2) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine, fine, and medium roots; many very fine and fine irregular pores; 5 percent gravel; strongly effervescent; few coatings of calcium carbonate 1 millimeter thick on underside of gravel; slightly alkaline (pH 7.6); gradual smooth boundary.

Bkg2—16 to 28 inches; light brownish gray (2.5Y 6/2) loam, dark grayish brown (2.5Y 4/2) moist; common fine distinct dark yellowish brown (10YR 3/4) redoximorphic concentrations; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and medium roots; many fine irregular pores; 5 percent gravel; strongly effervescent; few coatings of calcium carbonate 1 millimeter thick on underside of gravel; moderately alkaline (pH 7.9); clear wavy boundary.

Bkg3—28 to 41 inches; light brownish gray (2.5Y 6/2) loam, grayish brown (2.5Y 5/2) moist; common fine distinct dark yellowish brown (10YR 3/4) redoximorphic concentrations; moderate medium subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; few fine and medium roots; common fine irregular pores; 5 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

Bkg4—41 to 52 inches; light brownish gray (2.5Y 6/2) gravelly sandy loam, dark grayish brown (2.5Y 4/2) moist; few fine distinct dark yellowish brown (10YR 4/4) redoximorphic concentrations; single grain; loose, nonsticky and nonplastic; common very fine roots; common very fine irregular pores; 25 percent gravel; strongly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

2Cg—52 to 60 inches; light brownish gray (2.5Y 6/2) extremely gravelly loamy coarse sand, dark grayish brown (2.5Y 4/2) moist; few fine prominent dark yellowish brown (10YR 3/4) and light yellowish brown (10YR 6/4) redoximorphic

concentrations; single grain; loose, nonsticky and nonplastic; 80 percent gravel; slightly effervescent; moderately alkaline (pH 7.9).

### ***Range in Characteristics***

*Depth to restrictive feature (2Cg horizon):* 40 to 60 inches to strongly contrasting textural stratification

*Frequency of flooding:* Occasional

*Frequency of ponding:* Frequent

*Depth to water table:* At the surface to a depth of 2 feet in January through December

*Thickness of mollic epipedon:* 7 to 15 inches

*Depth to calcic horizon:* At the surface to a depth of 7 inches

*Akg horizon:*

Hue—2.5Y or 5Y

Value—4 or 5 dry, 2 or 3 moist

Chroma—1 or 2 dry or moist

Texture—silt loam

Calcium carbonate equivalent—40 to 65 percent

Reaction—slightly alkaline

*Bkg horizon:*

Hue—2.5Y or 5Y

Value—5 to 7 dry, 4 to 6 moist

Chroma—1 or 2 dry or moist

Texture—loam, silt loam, or gravelly sandy loam

Content of rock fragments—0 to 30 percent gravel

Calcium carbonate equivalent—40 to 65 percent in upper part, 5 to 40 percent in lower part

Reaction—slightly alkaline or moderately alkaline

*2Cg horizon:*

Hue—2.5Y or 5Y

Value—5 or 6 dry, 4 or 5 moist

Chroma—1 or 2 dry or moist

Texture—extremely gravelly loamy coarse sand

Content of rock fragments—60 to 80 percent gravel

Calcium carbonate equivalent—0 to 10 percent

Reaction—slightly alkaline or moderately alkaline

### ***Truesdale Series***

*Depth class:* Moderately deep to a duripan

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Depressions of lava plains

*Parent material:* Mixed alluvium, lacustrine deposits, and loess over basalt

*Slope range:* 0 to 2 percent

*Elevation:* 4,500 to 4,700 feet

*Mean annual precipitation:* 9 to 10 inches

*Mean annual air temperature:* 46 to 48 degrees F

*Frost-free period:* 100 to 120 days

*Taxonomic class:* Coarse-loamy, mixed, mesic Xerochreptic Haplodurids

### ***Typical Pedon***

Truesdale loam in an area of Truesdale-Minidoka complex, 0 to 2 percent slopes,

Butte County, Idaho, about 7 miles southeast of Coffee Point; about 2,250 feet north and 600 feet west of the southeast corner of section 33, T. 3 S., R. 31 E.

- Ap—0 to 6 inches; pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; moderate coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; strongly effervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.
- Bw—6 to 15 inches; pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; moderate coarse subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine roots; common very fine and few fine tubular pores; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.
- Bk—15 to 21 inches; very pale brown (10YR 7/3) fine sandy loam, brown (10YR 5/3) moist; moderate coarse subangular blocky structure; hard, friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 30 percent very firm cicada nodules; violently effervescent; strongly alkaline (pH 8.5); abrupt wavy boundary.
- 2Bkqm—21 to 25 inches; very pale brown (10YR 8/2) weakly cemented duripan, very pale brown (10YR 7/3) moist; strong thick platy structure; hard, very firm; discontinuous silica cap covered with root mat; few very fine roots; common very fine and few fine tubular pores; violently effervescent; strongly alkaline (pH 8.5); clear wavy boundary.
- 2Bk1—25 to 37 inches; white (10YR 8/1) silt loam, very pale brown (10YR 7/3) moist; weak thick platy structure; slightly hard, firm, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; violently effervescent; strongly alkaline (pH 8.8); gradual wavy boundary.
- 2Bk2—37 to 54 inches; very pale brown (10YR 7/3) loam, pale brown (10YR 6/3) moist; weak thick platy structure; slightly hard, firm, nonsticky and nonplastic; common very fine and fine tubular pores; violently effervescent; strongly alkaline (pH 8.5); gradual wavy boundary.
- 2Bk3—54 to 57 inches; pale brown (10YR 6/3) cobbly loam, brown (10YR 5/3) moist; weak coarse subangular blocky structure; slightly hard, firm, nonsticky and nonplastic; common very fine and few fine tubular pores; 10 percent gravel and 10 percent cobbles; violently effervescent; strongly alkaline (pH 8.8); abrupt irregular boundary.
- 2R—57 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 40 inches to duripan, 50 to 60 inches to lithic bedrock

*Depth to calcic horizon:* 11 to 21 inches

#### *Ap horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—5 to 15 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bw horizon:*

Hue—10YR

Value—5 to 7 dry, 2 to 4 moist

Chroma—2 to 4 dry or moist

Texture—loam

Content of rock fragments—0 to 10 percent gravel

Calcium carbonate equivalent—5 to 15 percent  
Reaction—slightly alkaline or moderately alkaline

*Bk horizon:*

Hue—10YR  
Value—6 to 8 dry, 4 to 6 moist  
Chroma—2 or 3 dry or moist  
Texture—fine sandy loam  
Content of rock fragments—0 to 10 percent gravel  
Calcium carbonate equivalent—15 to 40 percent  
Reaction—moderately alkaline or strongly alkaline

*2Bkqm horizon:*

Hue—10YR  
Value—7 or 8 dry or moist  
Chroma—2 or 3 dry or moist  
Texture—cemented fine sandy loam  
Content of rock fragments—0 to 10 percent gravel  
Calcium carbonate equivalent—15 to 40 percent  
Reaction—moderately alkaline or strongly alkaline

*2Bk horizon:*

Hue—10YR  
Value—6 to 8 dry, 5 to 7 moist  
Chroma—1 to 3 dry or moist  
Texture—loam, silt loam, or cobbly loam  
Content of rock fragments—0 to 25 percent gravel and cobbles  
Calcium carbonate equivalent—20 to 40 percent  
Reaction—moderately alkaline or strongly alkaline

## ***Vickton Series***

*Depth class:* Deep

*Drainage class:* Well drained

*Landscape:* Plains

*Landform:* Depressions of lava plains

*Parent material:* Loess over basalt

*Slope range:* 0 to 12 percent

*Elevation:* 4,700 to 5,400 feet

*Mean annual precipitation:* 12 to 16 inches

*Mean annual air temperature:* 43 to 45 degrees F

*Frost-free period:* 70 to 90 days

*Taxonomic class:* Fine-loamy, mixed, frigid Calcic Argixerolls

### ***Typical Pedon***

Vickton silt loam in an area of McCarey-Vickton-Lava flows complex, 0 to 15 percent slopes, Butte County, Idaho, about 13 miles southwest of Atomic City, Idaho, and about 3 miles southwest of Big Southern Butte; about 600 feet south and 1,200 east of the northwest corner of section 20, T. 1 N., R. 29 E.

A1—0 to 2 inches; dark grayish brown (10YR 4/2) silt loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine irregular pores; 2 percent gravel; slightly alkaline (pH 7.6); clear smooth boundary.  
A2—2 to 8 inches; brown (10YR 5/3) silt loam, dark brown (10YR 3/3) moist;

- moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and few medium roots; common very fine tubular pores; 2 percent gravel; slightly alkaline (pH 7.6); clear wavy boundary.
- Bt—8 to 14 inches; brown (10YR 5/3) silty clay loam, dark brown (10YR 3/3) moist; weak medium prismatic structure parting to moderate medium subangular blocky; hard, firm, moderately sticky and moderately plastic; many very fine and fine and few medium roots; common very fine tubular and irregular pores; few faint clay films on faces of peds; 2 percent gravel; slightly alkaline (pH 7.6); abrupt wavy boundary.
- Bk1—14 to 22 inches; very pale brown (10YR 7/3) silty clay loam, brown (10YR 5/3) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; common very fine tubular pores; 2 percent gravel; violently effervescent; moderately alkaline (pH 7.9); clear wavy boundary.
- Bk2—22 to 36 inches; very pale brown (10YR 7/3) silty clay loam, brown (10YR 5/3) moist; weak coarse subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, fine, and medium roots; common very fine tubular pores; 2 percent gravel and 1 percent cobbles; violently effervescent; few coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.
- Bk3—36 to 46 inches; pale brown (10YR 6/3) silty clay loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, moderately sticky and moderately plastic; few very fine, fine, and medium roots; common very fine tubular pores; 2 percent gravel and 1 percent cobbles; strongly effervescent; few coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 7.9); gradual wavy boundary.
- Bk4—46 to 58 inches; pale brown (10YR 6/3) loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; 2 percent gravel and 2 percent cobbles; strongly effervescent; few coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 7.9); abrupt wavy boundary.
- 2R—58 inches; basalt.

### ***Range in Characteristics***

*Depth to restrictive feature:* 40 to 60 inches to lithic bedrock

*Thickness of mollic epipedon:* 10 to 19 inches

*Depth to argillic horizon:* 3 to 12 inches

*Depth to calcic horizon:* 10 to 22 inches

#### *A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—silt loam

Content of rock fragments—0 to 15 percent gravel

Reaction—slightly alkaline

#### *Bt horizon:*

Hue—10YR

Value—4 to 6 dry, 3 to 5 moist

Chroma—3 or 4 dry or moist

Texture—silty clay loam

Content of rock fragments—0 to 15 percent gravel

Reaction—slightly alkaline



*Bk horizon:*

Hue—10YR

Value—6 to 8 dry, 4 to 6 moist

Chroma—2 to 4 dry or moist

Texture—loam or silty clay loam

Content of rock fragments—0 to 15 percent gravel and cobbles

Calcium carbonate equivalent—15 to 30 percent

Reaction—slightly alkaline or moderately alkaline

***Vitale Series****Depth class:* Moderately deep*Drainage class:* Well drained*Landscape:* Mountains*Landform:* Mountain slopes*Parent material:* Slope alluvium and colluvium derived from welded tuff, rhyolite, quartz monzonite, sandstone, conglomerate, and siltstone*Slope range:* 5 to 60 percent*Elevation:* 5,000 to 8,500 feet*Mean annual precipitation:* 12 to 20 inches*Mean annual air temperature:* 39 to 45 degrees F*Frost-free period:* 50 to 90 days*Taxonomic class:* Loamy-skeletal, mixed, frigid Typic Argixerolls***Typical Pedon***

Vitale very cobbly loam in an area of Vitale-Blacksparg complex, 5 to 60 percent slopes, Butte County, Idaho, about 1 mile southwest of the Golden Chariot Mine; about 1,700 feet south and 100 feet east of the northwest corner of section 28, T. 2 N., R. 24 E.

A1—0 to 3 inches; grayish brown (10YR 5/2) very cobbly loam, dark brown (10YR 3/3) moist; moderate fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common fine tubular pores; 30 percent gravel, 25 percent cobbles, and 2 percent stones; neutral (pH 6.7); clear smooth boundary.

A2—3 to 10 inches; brown (10YR 5/3) very cobbly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many fine tubular pores; 20 percent gravel, 20 percent cobbles, and 1 percent stones; neutral (pH 7.2); clear wavy boundary.

Bt1—10 to 19 inches; brown (10YR 5/3) very cobbly clay loam, dark yellowish brown (10YR 3/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, and medium roots; many fine tubular pores; common faint clay films on faces of peds and in some pores; 15 percent gravel, 40 percent cobbles, and 1 percent stones; neutral (pH 7.2); gradual wavy boundary.

Bt2—19 to 24 inches; brown (7.5YR 5/2) very cobbly clay loam, dark brown (7.5YR 3/4) moist; weak medium prismatic structure parting to moderate medium subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common fine tubular pores; common faint clay films on faces of peds and in some pores; 15 percent gravel, 40 percent cobbles, and 1 percent stones; neutral (pH 7.2); gradual wavy boundary.

Bt3—24 to 33 inches; light brown (7.5YR 6/4) very cobbly loam, dark brown (7.5YR



3/4) moist; weak medium prismatic structure parting to moderate medium subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common fine tubular pores; few faint clay films on faces of peds and in some pores; 15 percent gravel, 40 percent cobbles, and 4 percent stones; neutral (pH 7.2); abrupt wavy boundary.

R—33 inches; siltstone.

### ***Range in Characteristics***

*Depth to restrictive feature:* 20 to 40 inches to lithic bedrock

*Thickness of mollic epipedon:* 7 to 17 inches

*Depth to argillic horizon:* 3 to 12 inches

*A horizon:*

Hue—10YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—very cobbly loam

Content of rock fragments—35 to 60 percent gravel, cobbles, and stones

Reaction—slightly acid to slightly alkaline

*Bt horizon:*

Hue—7.5YR or 10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 to 4 dry or moist

Texture—very cobbly loam or very cobbly clay loam

Content of rock fragments—35 to 60 percent gravel, cobbles, and stones

Reaction—neutral or slightly alkaline

## ***Whitecloud Series***

*Depth class:* Very deep

*Drainage class:* Somewhat excessively drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Alluvium derived from limestone

*Slope range:* 1 to 4 percent

*Elevation:* 5,900 to 6,500 feet

*Mean annual precipitation:* 8 to 11 inches

*Mean annual air temperature:* 39 to 43 degrees F

*Frost-free period:* 60 to 75 days

*Taxonomic class:* Sandy-skeletal, carbonatic, frigid Xeric Haplocalcids

### ***Typical Pedon***

Whitecloud gravelly loam in an area of Paint-Whitecloud complex, 1 to 4 percent slopes, Butte County, Idaho, about 2 miles northwest of Clyde, Idaho; about 100 feet south and 250 feet west of the northeast corner of section 31, T. 10 N., R. 27 E.

A1—0 to 4 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak thin platy structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; 15 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

A2—4 to 10 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist;

moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine and fine and common medium roots; common very fine tubular pores; 25 percent gravel and 3 percent cobbles; strongly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

Bk—10 to 15 inches; very pale brown (10YR 7/3) extremely gravelly sandy loam, brown (10YR 5/3) moist; massive; hard, firm, nonsticky and nonplastic; few very fine, fine, and medium roots; few very fine irregular pores; 60 percent gravel and 5 percent cobbles; strongly effervescent; few coatings of calcium carbonate 1 millimeter thick on underside of rock fragments; moderately alkaline (pH 7.9); clear wavy boundary.

2Bkq1—15 to 29 inches; light brownish gray (10YR 6/2) extremely gravelly loamy sand, brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine, fine, and medium roots; few very fine irregular pores; 55 percent gravel and 5 percent cobbles; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2); clear wavy boundary.

2Bkq2—29 to 60 inches; light brownish gray (10YR 6/2) extremely gravelly loamy sand, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; few very fine, fine, and medium roots; 55 percent gravel and 5 percent cobbles; strongly effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; moderately alkaline (pH 8.2).

### ***Range in Characteristics***

*Depth to restrictive feature (2Bkq horizon):* 10 to 25 inches to strongly contrasting textural stratification

*Depth to calcic horizon:* 4 to 15 inches

#### *A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam

Content of rock fragments—15 to 30 percent gravel and cobbles

Calcium carbonate equivalent—10 to 20 percent

Reaction—slightly alkaline or moderately alkaline

#### *Bk horizon:*

Hue—10YR

Value—5 to 7 dry, 4 to 6 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly sandy loam or extremely gravelly sandy loam

Content of rock fragments—45 to 75 percent gravel and cobbles

Calcium carbonate equivalent—55 to 80 percent

Reaction—slightly alkaline or moderately alkaline

#### *2Bkq horizon:*

Hue—10YR

Value—4 to 6 dry, 3 to 5 moist

Chroma—1 to 3 dry or moist

Texture—extremely gravelly loamy sand

Content of rock fragments—60 to 75 percent gravel and cobbles

Calcium carbonate equivalent—55 to 80 percent

Reaction—moderately alkaline

## **Whiteknob Series**

*Depth class:* Very deep

*Drainage class:* Somewhat excessively drained

*Landscape:* Plains

*Landform:* Fan remnants

*Parent material:* Mixed alluvium

*Slope range:* 0 to 4 percent

*Elevation:* 4,800 to 6,000 feet

*Mean annual precipitation:* 9 to 11 inches

*Mean annual air temperature:* 41 to 43 degrees F

*Frost-free period:* 70 to 100 days

*Taxonomic class:* Sandy-skeletal, mixed, frigid Xeric Haplocalcids

### **Typical Pedon**

Whiteknob loam in an area of Medicine-Whiteknob complex, 0 to 1 percent slopes, Butte County, Idaho, about 15 miles northwest of Howe, Idaho; about 2,310 feet south and 1,320 feet east of the northwest corner of section 30, T. 8 N., R. 28 E.

A—0 to 5 inches; light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; weak thin platy structure parting to moderate fine granular; soft, friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine vesicular pores; strongly effervescent; strongly alkaline (pH 8.5); abrupt smooth boundary.

Bw—5 to 10 inches; light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, common fine, and few medium roots; many very fine and common fine tubular pores; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2Bk1—10 to 18 inches; light gray (10YR 7/2) extremely gravelly sandy loam, grayish brown (10YR 5/2) moist; single grain; loose, nonsticky and nonplastic; many very fine, common fine, and few medium roots; many fine and medium irregular pores; 90 percent gravel; violently effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on all sides of gravel; moderately alkaline (pH 8.3); clear wavy boundary.

2Bk2—18 to 60 inches; gray (10YR 6/1) extremely gravelly sand, dark gray (10YR 4/1) moist; single grain; loose, nonsticky and nonplastic; common very fine roots; many fine and medium irregular pores; 90 percent gravel; strongly effervescent; few coatings of calcium carbonate 1 millimeter thick on underside of gravel; moderately alkaline (pH 8.0).

### **Range in Characteristics**

*Depth to restrictive feature (2Bk horizon):* 10 to 20 inches to strongly contrasting textural stratification

*Depth to calcic horizon:* 10 to 15 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—loam or gravelly loam

Content of rock fragments—0 to 35 percent gravel

Calcium carbonate equivalent—10 to 20 percent

Reaction—slightly alkaline to strongly alkaline

*Bw horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 to 4 dry or moist

Texture—loam or gravelly loam

Content of rock fragments—0 to 35 percent gravel

Calcium carbonate equivalent—10 to 20 percent

Reaction—slightly alkaline to strongly alkaline

*2Bk1 horizon:*

Hue—10YR

Value—6 or 7 dry, 5 or 6 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly loam or extremely gravelly sandy loam

Content of rock fragments—50 to 90 percent gravel

Calcium carbonate equivalent—15 to 30 percent

Reaction—moderately alkaline or strongly alkaline

*2Bk2 horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—1 or 2 dry or moist

Texture—very gravelly loamy coarse sand, very gravelly sand, extremely gravelly loamy coarse sand, or extremely gravelly sand

Content of rock fragments—50 to 90 percent gravel

Calcium carbonate equivalent—15 to 35 percent

Reaction—moderately alkaline or strongly alkaline

***Zeale Series****Depth class:* Very deep*Drainage class:* Well drained*Landscape:* Plains, foothills, mountains*Landform:* Fan remnants, hillslopes, mountain slopes*Parent material:* Colluvium and slope alluvium derived from limestone*Slope range:* 2 to 60 percent*Elevation:* 6,000 to 9,000 feet*Mean annual precipitation:* 12 to 26 inches*Mean annual air temperature:* 34 to 42 degrees F*Frost-free period:* 30 to 55 days*Taxonomic class:* Loamy-skeletal, carbonatic Calcic Cryoborolls***Typical Pedon***

Zeale gravelly loam in an area of Zeale complex, 20 to 60 percent slopes, Butte County, Idaho, about 2.5 miles southwest of Hawley Mountain; about 1,800 feet south and 1,900 feet west of the northeast corner of section 29, T. 9 N., R. 26 E.

A—0 to 3 inches; grayish brown (10YR 5/2) gravelly loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine irregular pores; 20 percent gravel, 1 percent cobbles, and 1 percent stones; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bw—3 to 10 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable,

slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 30 percent gravel, 5 percent cobbles, and 1 percent stones; strongly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.

Bk1—10 to 13 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 40 percent gravel and 5 percent cobbles; strongly effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); gradual wavy boundary.

Bk2—13 to 22 inches; very pale brown (10YR 7/3) very gravelly loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine and few fine and medium roots; common very fine tubular pores; 40 percent gravel and 5 percent cobbles; violently effervescent; common coatings of calcium carbonate 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); gradual wavy boundary.

Bkq1—22 to 36 inches; very pale brown (10YR 7/3) very gravelly loam, light yellowish brown (10YR 6/4) moist; massive; slightly hard, friable, nonsticky and slightly plastic; few very fine, fine, and medium roots; few very fine tubular pores; 45 percent gravel, 10 percent cobbles, and 1 percent stones; violently effervescent; common coatings of calcium carbonate and silica 1 to 2 millimeters thick on underside of rock fragments; strongly alkaline (pH 8.5); gradual wavy boundary.

Bkq2—36 to 60 inches; very pale brown (10YR 7/3) very gravelly loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine and fine roots; few very fine tubular pores; 45 percent gravel, 10 percent cobbles, and 1 percent stones; violently effervescent; common coatings of calcium carbonate and silica 1 millimeter thick on underside of rock fragments; strongly alkaline (pH 8.5).

### ***Range in Characteristics***

*Depth to restrictive feature (Bk horizon):* 8 to 15 inches to high content of carbonates

*Thickness of mollic epipedon:* 8 to 15 inches

*Depth to calcic horizon:* 8 to 15 inches

#### ***A and Bw horizons:***

Hue—10YR

Value—3 to 5 dry, 2 or 3 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam or very gravelly loam

Content of rock fragments—15 to 40 percent gravel, cobbles, and stones

Calcium carbonate equivalent—15 to 45 percent

Reaction—slightly alkaline or moderately alkaline

#### ***Bk and Bkq horizons:***

Hue—10YR

Value—5 to 8 dry, 3 to 6 moist

Chroma—2 to 4 dry or moist

Texture—very gravelly loam

Content of rock fragments—35 to 55 percent gravel, cobbles, and stones

Calcium carbonate equivalent—40 to 80 percent

Reaction—moderately alkaline or strongly alkaline

## ***Zeebar Series***

*Depth class:* Very deep

*Drainage class:* Well drained

*Landscape:* Foothills, mountains

*Landform:* Hillslopes, mountain slopes, ridges

*Parent material:* Colluvium and slope alluvium derived from quartzite

*Slope range:* 15 to 50 percent

*Elevation:* 7,000 to 9,000 feet

*Mean annual precipitation:* 12 to 18 inches

*Mean annual air temperature:* 34 to 40 degrees F

*Frost-free period:* 10 to 50 days

*Taxonomic class:* Loamy-skeletal, mixed Argic Cryoborolls

### ***Typical Pedon***

Zeebar gravelly loam in an area of Zeebar association, 20 to 50 percent slopes, Butte County, Idaho, Hawley Mountain; about 300 feet north and 1,300 feet east of the southwest corner of section 10, T. 9 N., R. 26 E.

- A1—0 to 3 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine tubular pores; 15 percent gravel, 2 percent cobbles, and 1 percent stones; neutral (pH 7.0); clear smooth boundary.
- A2—3 to 10 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine, fine, and medium roots; common very fine tubular pores; 20 percent gravel and 3 percent cobbles; neutral (pH 6.7); clear wavy boundary.
- BA—10 to 19 inches; brown (7.5YR 5/4) gravelly loam, dark brown (7.5YR 3/4) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine tubular pores; 24 percent gravel and 3 percent cobbles; neutral (pH 6.7); gradual wavy boundary.
- Bt—19 to 41 inches; brown (7.5YR 5/4) very gravelly clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and plastic; common very fine and fine and few medium roots; few faint clay films on faces of peds and in pores; 40 percent gravel and 5 percent flagstones; neutral (pH 6.7); gradual wavy boundary.
- C—41 to 60 inches; light brown (7.5YR 6/4) extremely gravelly loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; 45 percent gravel, 15 percent cobbles, and 5 percent stones; neutral (pH 7.0).

### ***Range in Characteristics***

*Depth to restrictive feature:* More than 60 inches

*Thickness of mollic epipedon:* 10 to 16 inches

*Depth to argillic horizon:* 6 to 10 inches

*A and BA horizons:*

Hue—7.5YR or 10YR

Value—3 to 5 dry, 2 or 3 moist

Chroma—2 to 4 dry or moist



Texture—gravelly loam or very gravelly loam  
 Content of rock fragments—15 to 45 percent gravel, cobbles, and stones  
 Reaction—neutral or slightly alkaline

*Bt horizon:*

Hue—7.5YR or 10YR  
 Value—4 to 6 dry, 3 to 5 moist  
 Chroma—3 or 4 dry or moist  
 Texture—very gravelly clay loam or extremely gravelly clay loam  
 Content of rock fragments—35 to 75 percent gravel, cobbles, and stones  
 Reaction—neutral or slightly alkaline

*C horizon:*

Hue—7.5YR or 10YR  
 Value—6 or 7 dry, 4 or 5 moist  
 Chroma—3 or 4 dry or moist  
 Texture—extremely gravelly loam  
 Content of rock fragments—60 to 85 percent gravel, cobbles, and stones  
 Reaction—neutral or slightly alkaline

## **Zer Series**

*Depth class:* Very deep  
*Drainage class:* Well drained  
*Landscape:* Plains, foothills  
*Landform:* Fan remnants, drainageways, hillslopes  
*Parent material:* Mixed alluvium and colluvium  
*Slope range:* 1 to 50 percent  
*Elevation:* 4,000 to 7,000 feet  
*Mean annual precipitation:* 8 to 12 inches  
*Mean annual air temperature:* 38 to 43 degrees F  
*Frost-free period:* 60 to 90 days  
*Taxonomic class:* Loamy-skeletal, mixed frigid Xeric Haplocalcids

### **Typical Pedon**

Zer gravelly loam in an area of Zer-Whiteknob complex, 1 to 4 percent slopes, Butte County, Idaho, about 10 miles north of Moore, Idaho; about 125 feet south and 75 feet east of the northwest corner of section 31, T. 7 N., R. 26 E.

A—0 to 3 inches; light brownish gray (10YR 6/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; weak medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; few very fine tubular pores; 15 percent gravel; slightly effervescent; moderately alkaline (pH 7.9); clear smooth boundary.

Bk1—3 to 17 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; 15 percent gravel; strongly effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

Bk2—17 to 33 inches; light brownish gray (10YR 6/2) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and slightly plastic; many very fine and fine roots; common very fine irregular pores; 40 percent gravel and 10 percent cobbles; violently effervescent; strongly alkaline (pH 8.5); gradual wavy boundary.

2Bk3—33 to 60 inches; light brownish gray (10YR 6/2) very gravelly loamy sand, dark



grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; common very fine irregular pores; 35 percent gravel and 10 percent cobbles; strongly effervescent; strongly alkaline (pH 8.5).

***Range in Characteristics***

*Depth to restrictive feature (2Bk horizon):* 20 to more than 60 inches to strongly contrasting textural stratification

*Depth to calcic horizon:* 3 to 10 inches

*A horizon:*

Hue—10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam or very gravelly loam

Content of rock fragments—15 to 55 percent gravel and cobbles

Calcium carbonate equivalent—0 to 15 percent

Reaction—slightly alkaline to strongly alkaline

*Bk horizon:*

Hue—10YR

Value—5 to 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—gravelly loam, gravelly sandy loam, very gravelly loam, very gravelly sandy loam, or extremely gravelly sandy loam

Content of rock fragments—15 to 70 percent gravel and cobbles

Calcium carbonate equivalent—20 to 40 percent

Reaction—moderately alkaline or strongly alkaline

*2Bk horizon:*

Hue—10YR

Value—6 or 7 dry, 4 or 5 moist

Chroma—2 or 3 dry or moist

Texture—very gravelly loamy sand or extremely gravelly loamy sand

Content of rock fragments—35 to 80 percent gravel and cobbles

Calcium carbonate equivalent—15 to 40 percent

Reaction—moderately alkaline or strongly alkaline



# Formation of the Soils

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By Bradley J. Duncan, resource soil scientist, Natural Resources Conservation Service, and Darwin Jeppesen, soil scientist, Bureau of Land Management.

Soil is a natural body covering the surface of the earth in which plants grow. It is a fundamental part of the ecosystem and exists in balance with other components of the environment.

Soils are characterized by their vertical sequence of layers, called horizons, that vary in color, texture, chemistry, and structure. Horizons are continually forming and evolving, usually over a long period of time, in response to environmental forces. These forces, or soil-forming factors, are parent material, climate, living organisms, relief, and time (Jenny, 1941). The combined action of these forces varies from place to place but ultimately results in soil formation. Although one or two of these forces may be dominant in the process of soil formation, a particular set of soil-forming factors results in a unique soil profile. Therefore, differences among soils can be traced to differences in one or more soil-forming factors.

## Parent Material

One of the factors that determines differences in soils is the chemical and mineralogical composition of the parent material. Climate, plant and animal life, and relief act on the parent material over time to slowly change it into a soil that has genetically related horizons. Soils in the survey area formed in residual, colluvial, alluvial, lacustrine, and eolian material. Several kinds of parent material of differing ages are present, including metamorphic rock, sedimentary rock, extrusive igneous rock, pyroclastic material, loess, and river and stream alluvium. The age of the parent material is extremely varied, and the complex, active geologic history of the area makes it difficult to accurately describe the exact location and stratigraphic position of the parent material.

## Foothills and Mountains

The oldest parent material in the survey area is the Paleozoic sedimentary rock, limestone, and dolomite, which occur as a result of sediment collection in shallow seas. This material is on the foothills and low mountains west of Moore and on the foothills and low mountains east of the highway going north from Arco. The soils that formed in these kinds of parent material have more than 35 percent rock fragments and are high in content of calcium carbonate, which gives the soils a carbonatic mineralogy. Examples are the Ike, Jimbee, and Bealand series.

Tertiary extrusive igneous rock of the Challis Volcanic Group is dominantly on the mountains and foothills south of Antelope Creek and east of Dry Fork Creek. The major types of rock in the Challis Volcanic Group are rhyolite, tuff, basalt, andesite, and latite. Most of the soils have more than 35 percent rock fragments, a dark-colored surface layer, and an argillic horizon. Examples are the Cronks, Dacont, Donkehill, Howcan, Hutchley, and Hagenbarth series.

Areas of soils that formed dominantly in colluvium and residuum with some

alluvium derived from rhyolite and quartzitic rock are in the northeastern and west-central parts of the survey area. The soils range from those that have a light-colored surface layer and are on south-facing slopes to those that have a dark-colored surface layer and are on north-facing slopes. Examples are the Mogg, Shagel, Nurkey, and Zeebar series.

An area of Paleozoic sedimentary and metamorphic rock and sediment is in the extreme western part of the survey area. The soils in this area formed in volcanic ash and colluvium derived from quartzitic sandstone and siltstone. They have more than 35 percent rock fragments and a dark-colored surface layer that is absent of volcanic ash. Examples are the Lavacreek, Dollarhide, and Vitale series (Idaho Department of Lands, 1978).

## **Lava Plains**

Basalt lava plains are extensive in the survey area, and they commonly have a mantle of loess, alluvium, volcanic ash, and cinders. The basalt flows have occurred periodically over a wide span of time (Miocene to recent). The youngest basalt flows and cinder cones are on the west side of the survey area, near the Craters of the Moon National Monument. These flows are estimated to be 1,500 to 2,000 years old. They exhibit many geologic features associated with recent lava flows, such as lava mounds, cinder and lapilli cones, spatter cones, lava caves, lava arches, and volcanic bombs (Blakesley and Wright, 1988). Examples of soils that have a mantle of volcanic ash and cinders over basalt are the Cinderhurst, Huddle, and Moonville series.

Other recent basalt flows are on the east and west sides of the survey area. These areas are less than 10,000 years old, which is still relatively young. An example of soils that have a thin mantle of loess over basalt is the Pingree series.

The Snake River Basalt flows that occurred during the Pleistocene comprise about 46 percent of the survey area. These flows are mostly in the southern and central parts of the survey area. The soils consist of thin to thick loess, alluvial material, or eolian deposits over basalt. These soils are separated into four different groups based on soil temperature, precipitation, and soil features.

The first group is in an area southeast of Arco. The soils consist of sandy eolian and alluvial material over basalt. Precipitation ranges from 9 to 11 inches, and the soil moisture regime is aridic. The soils have a light-colored surface layer and accumulations of calcium carbonate in the profile. Examples of soils in this group are the Bondfarm, Malm, Matheson, and Grassy Butte series.

The second group is in the east and southeast parts of the survey area. The soils consist of a mantle of alluvium derived from loess over basalt. Precipitation ranges from 9 to 11 inches, and the soil moisture regime is aridic. The soils have a light-colored surface layer and accumulations of calcium carbonate in the profile. Examples of soils in this group are the Nargon, Atom, and Coffee series.

The third group is in the south-central part of the survey area. The soils consist of a mantle of alluvium derived from loess and eolian deposits over basalt. Precipitation ranges from 11 to 15 inches, and the soil moisture regime is xeric. The soils have a dark-colored surface layer as a result of the accumulation of organic matter. They have an argillic horizon and an accumulation of calcium carbonate at a greater depth in the profile. Examples of soils in this group are the McCarey, Beartrap, and Techicknot series.

The fourth group is in the southernmost part of the survey area. The soils consist of a mantle of loess and mixed alluvium over basalt. Precipitation ranges from 9 to 10 inches, and the soil temperature regime is mesic. These soils have a light-colored surface layer because of the minimal accumulation of organic matter and have a calcic horizon. Some soils have a subsoil that is cemented with calcium carbonate

and silica. Examples of soils in this group are the Portino, Thornock, McCain, McClendon, Minidoka, and Truesdale series.

### **Fan Remnants and Foothills**

Extensive fan remnants and foothills are in the Little Lost River Valley north of Howe. West of the Little Lost River, the parent material is dominantly alluvium derived from limestone. Precipitation ranges from 8 to 12 inches, and the soil moisture regime is aridic. Plant production is relatively low; thus, the soils have a light-colored surface layer because of the minimal accumulation of organic matter. The soils commonly have more than 50 percent rounded coarse fragments. An accumulation of calcium carbonate is in most of the soils, and a duripan that is weakly cemented to strongly cemented with calcium carbonate and silica has formed in some areas. Examples are the Simeroi, Fallert, Fandow, Leatherman, and Paint series.

East of the Little Lost River Valley are more extensive fan remnants and foothills comprised of alluvium derived dominantly from quartzitic rock and mixed material. These areas do not have the carbonatic mineralogy as do the soils that formed in alluvium derived from limestone. Precipitation ranges from 8 to 12 inches, and the soil moisture regime is aridic. These soils have a light-colored surface layer and more than 50 percent rounded coarse fragments. Examples are the Zer, Snowslide, and Lesbut series.

### **Stream Terraces and Flood Plains**

Soils that formed in alluvium of the Pleistocene to recent are along rivers and streams in the survey area. Soils on the stream terraces and flood plains are somewhat poorly drained and poorly drained. They have a water table near the soil surface at some time during the year. Examples are the Dickypeak, Mooretown, and Thosand series. Also included in this group are soils that formed in lacustrine sediment in the basins and on the valley flats. The Starlite series is an example.

## **Climate**

Climate generally is the most influential factor in the formation of soils in the survey area. High precipitation and warm temperatures increase the rate of physical and chemical decomposition of parent material. Accelerated decomposition of parent material results in faster and more extensive soil development through leaching, eluviation, and illuviation. Climate has a profound effect on living organisms. High precipitation results in greater plant production and thus a higher content of organic matter in the soil. Temperature affects the rate at which organic matter decomposes.

The climate in the survey area is warm and dry in summer and generally is cool and moist in winter. Precipitation is not well distributed throughout the year. Most of the average annual precipitation is received in November through June. At the higher elevations, most of the precipitation falls as snow.

The average annual precipitation in the survey area varies greatly, mainly because of the differences in elevation. Precipitation ranges from about 8 inches on the fan terraces north of Howe to about 30 inches on the highest peaks and ridges in the western part of the survey area. On the Snake River Plain, where precipitation ranges from 9 to 11 inches annually, most of the soils have an aridic soil moisture regime. The soils have a light-colored surface layer, and calcium carbonate is leached to a shallow depth in the soil. The Nargon, Atom, and Coffee series are examples. Where the precipitation ranges from 11 to 15 inches, the soils have a xeric soil moisture regime. They have a darker-colored surface layer as a result of a slightly higher

accumulation of organic matter. The McCarey and Beartrap series are examples. At the highest elevations, generally above 5,500 feet, and particularly on north- and east-facing slopes, the average soil temperature in summer is cool. These soils have a cryic soil temperature regime. Cool soil temperatures tend to reduce mineral decomposition and microbial activity. This allows organic matter to accumulate in the soils and darken the surface layer. The higher precipitation that infiltrates the soil in winter and spring leaches soil components such as calcium carbonate and clay. In soils that have an accumulation of clay, an argillic horizon has formed. The Hagenbarth and Donkehill series are examples.

## **Living Organisms**

Living organisms, or plants and animals, play a significant role in soil formation. The kind and amount of organisms that live in and on the soils are determined by climate, parent material, relief, and age of the soils.

Poorly drained soils on the flood plains and stream terraces support water-tolerant grasses, sedges, and forbs. Because the high water table inhibits the growth of aerobic microorganisms, organic soils develop. In this survey area, the water table lowers for a significant period of time in summer, which allows for decomposition of the organic matter. The dark-colored surface layer of these soils indicates that a large amount of organic matter is decomposing and being incorporated into the soils. Examples are the Mooretown and Blackfoot series.

The kind and amount of vegetation on well drained soils is directly related to the effective moisture. Vegetation in areas of lower precipitation is mainly shrubs and grasses. In the areas that receive the highest amount of precipitation, the vegetation is mainly an overstory of coniferous trees and a sparse understory of shrubs, grasses, and forbs.

Fan remnants occur in the rainshadow of the major mountain ranges and in areas where snow is removed by wind in winter. Precipitation is about 8 to 11 inches in these areas, and the production of vegetation is somewhat limited. Because of the sparse vegetation, annual additions of organic matter are relatively small. Examples are the Simeroi, Sparmo, Zer, Snowslide, and Zer series.

Soils at the middle elevations also support shrubs and grasses. Precipitation is higher, and the amount of vegetation, especially grasses, is much greater. The abundance of roots adds humus to the soils and a thick, dark-colored surface layer forms. Microorganisms are active, and they have an influence on the dark color, structure, and physical properties of the soils. Examples are the Hagenbarth, Zeale, Povey, and Nurkey series.

At the higher elevations, where precipitation is greatest, the soils support an overstory of conifers and a sparse understory of shrubs, grasses, and forbs. This plant community does not produce an abundant fibrous root system, and most of the organic material is derived from needles, twigs, and leaves. The organic material does not decompose as rapidly as it does at the lower elevations because of the cold temperatures. Soils at the higher elevations have a layer of organic litter on a dark-colored surface layer. Examples are the Coalkiln and Ketchum series.

## **Relief**

The survey area is characterized by steep mountains, gently rolling to steep foothills, level to strongly sloping basalt lava plains, level to strongly sloping alluvial fan remnants and stream terraces, and level to gently sloping flood plains. These surfaces formed as a result of geologic action, and they affect soil formation by influencing erosion, effective precipitation, soil drainage, air drainage, and exposure to sun and wind.

Throughout the survey area, the soils that are in stable landscape positions generally exhibit the greatest soil development, mainly because the rates of erosion and runoff are lower in these areas. Generally, the soils on the steeper slopes are less stable and the rates of runoff and erosion are higher.

Aspect is also an important factor, particularly at the higher elevations. Soils on north and east aspects receive less sunlight than those on south and west aspects. As a result, the soil temperature is lower and the snow stays longer, providing moisture longer into the growing season. The soils on north and east aspects produce a thick plant cover that helps to prevent erosion. The soils on south and west aspects have sparser vegetation and more erosion takes place; consequently, these soils are shallower.

## **Time**

The variability of the climate, parent material, relief, and vegetation results in a wide variety of soils in the survey area; however, the different horizons present in the soils and the degree of their development can be related to time. Soil-forming processes commonly are slow, and appreciable time is required to change the parent material. The length of time necessary for significant changes to take place depends on the particular combination of soil-forming factors present. Soils develop faster in humid areas than in dry areas. Soils on steep mountain slopes commonly are young and not as well developed because of the constant removal of material by erosion. Soils on flood plains and some alluvial fans are young because of repeated deposition.

Most of the soils in the survey area are geologically young and formed in an arid or semiarid environment. Soils that formed on the lava plains with a mantle of eolian material or loess exhibit very little soil development. Most have an accumulation of calcium carbonate near the surface. Examples are the Malm and Matheson series. Soils that exhibit stronger soil development have an argillic horizon and calcium carbonate has been leached deeper into the profile. These soils commonly are on more stable landscapes that are subject to less erosion. Examples are the Beartrap and McCarey series. Soils on the older surfaces have a subsoil that is cemented with calcium carbonate and silica. The Bluedome series is an example.





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# Glossary

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Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

**AC soil.** A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

**Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

**Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

**Alkali (sodic) soil.** A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

**Alluvial fan.** A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

**Alluvium.** Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

**Alpha,alpha-dipyridyl.** A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

**Animal unit month (AUM).** The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

**Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.

**Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.

**Aspect.** The direction toward which a slope faces. Also called slope aspect.

**Association, soil.** A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

**Available water capacity (available moisture capacity).** The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low .....	0 to 3
Low .....	3 to 6
Moderate .....	6 to 9
High .....	9 to 12
Very high .....	more than 12

**Backslope.** The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

**Badland.** A landscape that is intricately dissected and characterized by a very fine drainage network with high drainage densities and short, steep slopes and narrow interfluvies. Badlands develop on surfaces that have little or no vegetative cover overlying unconsolidated or poorly cemented materials (clays, silts, or sandstones) with, in some cases, soluble minerals, such as gypsum or halite.

**Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

**Base slope** (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

**Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

**Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

**Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

**Bottom land.** An informal term loosely applied to various portions of a flood plain.

**Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.

**Breaks.** A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

**Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

**Butte.** An isolated, generally flat-topped hill or mountain with relatively steep slopes and talus or precipitous cliffs and characterized by summit width that is less than the height of bounding escarpments; commonly topped by a caprock of resistant material and representing an erosion remnant carved from flat-lying rocks.

**Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

**Caliche.** A general term for a prominent zone of secondary carbonate accumulation in surficial materials in warm, subhumid to arid areas. Caliche is formed by both geologic and pedologic processes. Finely crystalline calcium carbonate forms a nearly continuous surface-coating and void-filling medium in geologic (parent) materials. Cementation ranges from weak in nonindurated forms to very strong in indurated forms. Other minerals (e.g., carbonates, silicate, and sulfate) may occur as accessory cements. Most petrocalcic horizons and some calcic horizons are caliche.

**Canyon.** A long, deep, narrow valley with high, precipitous walls in an area of high local relief.

**Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

**Catena.** A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

**Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

**Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

**Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a chanter.

**Chemical treatment.** Control of unwanted vegetation through the use of chemicals.

**Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

**Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

**Clay depletions.** See Redoximorphic features.

**Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

**Claypan.** A dense, compact subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. The layer restricts the downward movement of water through the soil. A claypan is commonly hard when dry and plastic and sticky when wet.

**Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

**Coarse textured soil.** Sand or loamy sand.

**Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

**Cobbly soil material.** Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

**COLE (coefficient of linear extensibility).** See Linear extensibility.

**Colluvium.** Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

**Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

**Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

**Concretions.** See Redoximorphic features.

**Conglomerate.** A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

**Conservation cropping system.** Growing crops in combination with needed cultural

and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

**Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

**Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

**Contour stripcropping.** Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

**Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

**Corrosion** (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

**Corrosion** (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

**Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

**Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

**Cropping system.** Growing crops according to a planned system of rotation and management practices.

**Cross-slope farming.** Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

**Cutbanks cave** (in tables). The walls of excavations tend to cave in or slough.

**Decreasers.** The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

**Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.

**Dense layer** (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

**Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

**Desert pavement.** A natural, residual concentration or layer of wind-polished, closely packed gravel, boulders, and other rock fragments mantling a desert surface. It forms where wind action and sheetwash have removed all smaller particles or where rock fragments have migrated upward through sediments to the surface. It typically protects the finer grained underlying material from further erosion.

**Dip slope.** A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.



**Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

**Divided-slope farming.** A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

**Drainage class (natural).** Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained*, *somewhat excessively drained*, *well drained*, *moderately well drained*, *somewhat poorly drained*, *poorly drained*, and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

**Drainage, surface.** Runoff, or surface flow of water, from an area.

**Drainageway.** A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

**Draw.** A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

**Dune.** A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

**Earthy fill.** See Mine spoil.

**Ecological site.** An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

**Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

**Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

**Eolian deposit.** Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

**Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

**Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

**Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

*Erosion* (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

*Erosion* (accelerated). Erosion much more rapid than geologic erosion, mainly as

a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

**Erosion pavement.** A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

**Erosion surface.** A land surface shaped by the action of erosion, especially by running water.

**Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion.

Synonym: scarp.

**Extrusive rock.** Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth's surface.

**Fallow.** Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

**Fan remnant.** A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

**Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

**Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.

**Fill slope.** A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

**Fine textured soil.** Sandy clay, silty clay, or clay.

**Firebreak.** An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

**Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

**Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

**Flood plain.** The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

**Fluvial.** Of or pertaining to rivers or streams; produced by stream or river action.

**Foothills.** A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

**Footslope.** The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

**Forb.** Any herbaceous plant not a grass or a sedge.

**Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

**Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

**Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

**Gravel.** Rounded or angular fragments of rock as much as 3 inches (7.6 centimeters) in diameter. An individual piece is a pebble.

**Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

**Green manure crop** (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

**Ground water.** Water filling all the unblocked pores of the material below the water table.

**Gully.** A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

**Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

**Hard to reclaim** (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

**Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

**Head slope** (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

**High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

**Hill.** A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

**Hillslope.** A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

**Horizon, soil.** A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

*O horizon.*—An organic layer of fresh and decaying plant residue.

*A horizon.*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

*E horizon.*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

*B horizon.*—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure;

(3) redder or browner colors than those in the A horizon; or (4) a combination of these.

*C horizon.*—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

*Cr horizon.*—Soft, consolidated bedrock beneath the soil.

*R layer.*—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

**Hydrologic soil groups.** Refers to soils grouped according to their runoff potential.

The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties include depth to a seasonal high water table, the infiltration rate, and depth to a layer that significantly restricts the downward movement of water. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

**Igneous rock.** Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

**Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

**Impervious soil.** A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

**Increasers.** Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**Intake rate.** The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2 .....	very low
0.2 to 0.4 .....	low
0.4 to 0.75 .....	moderately low
0.75 to 1.25 .....	moderate
1.25 to 1.75 .....	moderately high
1.75 to 2.5 .....	high
More than 2.5 .....	very high

**Interfluv.** A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

**Interfluv (geomorphology).** A geomorphic component of hills consisting of the

uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

**Intermittent stream.** A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**Invaders.** On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

**Iron depletions.** See Redoximorphic features.

**Irrigation.** Application of water to soils to assist in production of crops. Methods of irrigation are:

*Basin.*—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

*Border.*—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

*Controlled flooding.*—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

*Corrugation.*—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

*Drip (or trickle).*—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

*Furrow.*—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

*Sprinkler.*—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

*Subirrigation.*—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

*Wild flooding.*—Water, released at high points, is allowed to flow onto an area without controlled distribution.

**Knoll.** A small, low, rounded hill rising above adjacent landforms.

**Ksat.** See Saturated hydraulic conductivity.

**Lacustrine deposit.** Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

**Landslide.** A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

**Large stones** (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

**Leaching.** The removal of soluble material from soil or other material by percolating water.

**Linear extensibility.** Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at  $\frac{1}{3}$ - or  $\frac{1}{10}$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.



- Liquid limit.** The moisture content at which the soil passes from a plastic to a liquid state.
- Loam.** Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.
- Loess.** Material transported and deposited by wind and consisting dominantly of silt-sized particles.
- Low strength.** The soil is not strong enough to support loads.
- Low-residue crops.** Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.
- Mass movement.** A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.
- Masses.** See Redoximorphic features.
- Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.
- Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.
- Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.
- Mine spoil.** An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.
- Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.
- Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.
- Miscellaneous area.** A kind of map unit that has little or no natural soil and supports little or no vegetation.
- Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.
- Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.
- Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.
- Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.
- Mottling, soil.** Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).
- Mountain.** A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.
- Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.
- Natric horizon.** A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

**Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

**Nodules.** See Redoximorphic features.

**Nose slope** (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

**Nutrient, plant.** Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

**Organic matter.** Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low .....	less than 0.5 percent
Low .....	0.5 to 1.0 percent
Moderately low .....	1.0 to 2.0 percent
Moderate .....	2.0 to 4.0 percent
High .....	4.0 to 8.0 percent
Very high .....	more than 8.0 percent

**Outwash.** Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

**Outwash plain.** An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

**Pan.** A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

**Parent material.** The unconsolidated organic and mineral material in which soil forms.

**Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.

**Pedon.** The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

**Percolation.** The movement of water through the soil.

**pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

**Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

**Piping** (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

**Pitting** (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

**Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.

**Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

**Plateau** (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

**Playa.** The generally dry and nearly level lake plain that occupies the lowest parts of



closed depressions, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff. Playa deposits are fine grained and may or may not have a high water table and saline conditions.

**Plowpan.** A compacted layer formed in the soil directly below the plowed layer.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**Poorly graded.** Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

**Pore linings.** See Redoximorphic features.

**Potential native plant community.** See Climax plant community.

**Potential rooting depth (effective rooting depth).** Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

**Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

**Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Proper grazing use.** Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

**Rangeland.** Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid .....	less than 3.5
Extremely acid .....	3.5 to 4.4
Very strongly acid .....	4.5 to 5.0
Strongly acid .....	5.1 to 5.5
Moderately acid .....	5.6 to 6.0
Slightly acid .....	6.1 to 6.5
Neutral .....	6.6 to 7.3
Slightly alkaline .....	7.4 to 7.8
Moderately alkaline .....	7.9 to 8.4
Strongly alkaline .....	8.5 to 9.0
Very strongly alkaline .....	9.1 and higher

**Redoximorphic concentrations.** See Redoximorphic features.

**Redoximorphic depletions.** See Redoximorphic features.

**Redoximorphic features.** Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are

created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
  - A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
  - B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
  - C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
  - A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
  - B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletons).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

**Reduced matrix.** See Redoximorphic features.

**Regolith.** All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

**Relief.** The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

**Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

**Rill.** A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

**Riser.** The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

**Road cut.** A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

**Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

**Root zone.** The part of the soil that can be penetrated by plant roots.

**Runoff.** The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface

runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

**Saline soil.** A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

**Sand.** As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

**Sandstone.** Sedimentary rock containing dominantly sand-sized particles.

**Saturated hydraulic conductivity (Ksat).** The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy's Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as "Ksat." Terms describing saturated hydraulic conductivity are *very high*, 100 or more micrometers per second (14.17 or more inches per hour); *high*, 10 to 100 micrometers per second (1.417 to 14.17 inches per hour); *moderately high*, 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour); *moderately low*, 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour); *low*, 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour); and *very low*, less than 0.01 micrometer per second (less than 0.001417 inch per hour). To convert inches per hour to micrometers per second, multiply inches per hour by 7.0572. To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

**Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

**Sedimentary rock.** A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

**Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

**Series, soil.** A group of soils that have profiles that are almost alike. All the soils of a given series have horizons that are similar in composition, thickness, and arrangement.

**Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

**Shoulder.** The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

**Shrink-swell** (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

**Side slope** (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

**Silica.** A combination of silicon and oxygen. The mineral form is called quartz.

**Silica-sesquioxide ratio.** The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

**Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

**Siltstone.** An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

**Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

**Slickensides** (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural ped, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

**Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

**Slope alluvium.** Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished ped and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

**Slow refill** (in tables). The slow filling of ponds, resulting from restricted water transmission in the soil.

**Slow water movement** (in tables). Restricted downward movement of water through the soil. See Saturated hydraulic conductivity.

**Sodic (alkali) soil.** A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

**Sodicity.** The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of  $\text{Na}^+$  to  $\text{Ca}^{++} + \text{Mg}^{++}$ . The degrees of sodicity and their respective ratios are:

Slight .....	less than 13:1
Moderate .....	13-30:1
Strong .....	more than 30:1

**Sodium adsorption ratio (SAR).** A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

**Soft bedrock.** Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

**Soil.** A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

**Soil separates.** Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand .....	2.0 to 1.0
Coarse sand .....	1.0 to 0.5
Medium sand .....	0.5 to 0.25
Fine sand .....	0.25 to 0.10
Very fine sand .....	0.10 to 0.05
Silt .....	0.05 to 0.002
Clay .....	less than 0.002

**Solum.** The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

**Stone line.** In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

**Stones.** Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

**Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.

**Stream terrace.** One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

**Stripcropping.** Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

**Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

**Stubble mulch.** Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

**Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.

**Subsoiling.** Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

**Substratum.** The part of the soil below the solum.

**Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.

**Summer fallow.** The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

**Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

**Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated

soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

**Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

**Talus.** Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.

**Taxadjuncts.** Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

**Terrace** (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

**Terrace** (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

**Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, and clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

**Thin layer** (in tables). Otherwise suitable soil material that is too thin for the specified use.

**Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

**Toeslope.** The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

**Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

**Tread.** The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

**Tuff.** A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

**Upland.** An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

**Valley fill.** The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.



- Variegation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.
- Varve.** A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.
- Water bars.** Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.
- Weathering.** All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.
- Well graded.** Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.
- Wilting point (or permanent wilting point).** The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.



## Tables

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# Temperature and Precipitation

(Recorded in the period 1961-1990 at Arco 3 SW [0375], Craters of the Moon National Monument [2260], and Howe [4384], Idaho)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
				<sup>°F</sup>	<sup>°F</sup>			In	In		In
ARCO 3 SW	<sup>°F</sup>	<sup>°F</sup>	<sup>°F</sup>	<sup>°F</sup>	<sup>°F</sup>	Units	In	In	In		In
January	28.0	2.9	15.5	46	-28	0	1.00	0.47	1.69	2	8.7
February	34.7	8.6	21.7	51	-22	1	0.99	0.21	1.60	2	5.4
March	43.7	18.0	30.8	63	-9	12	0.79	0.21	1.26	2	3.6
April	56.9	27.6	42.3	78	10	127	0.80	0.28	1.28	2	0.4
May	67.3	36.2	51.7	85	18	364	1.28	0.60	1.86	3	0.3
June	76.6	43.3	59.9	93	29	591	1.29	0.41	2.08	3	0.0
July	85.3	48.3	66.8	95	34	809	0.78	0.19	1.25	1	0.0
August	83.5	46.3	64.9	96	32	758	0.90	0.13	1.53	2	0.0
September	73.3	37.6	55.5	90	20	453	0.72	0.17	1.30	1	0.0
October	61.3	28.6	45.0	80	11	189	0.51	0.16	0.98	1	0.2
November	42.9	18.4	30.7	63	-8	13	0.89	0.43	1.34	3	3.1
December	30.0	6.1	18.0	49	-26	0	1.05	0.31	1.65	3	9.6
Yearly:											
Average	57.0	26.8	41.9	---	---	---	---	---	---	---	---
Extreme	100	-45	---	97	-32	---	---	---	---	---	---
Total	---	---	---	---	---	3,316	11.00	7.65	13.11	25	31.2

Average number of days per year with at least 1 inch of snow on the ground: 8

See footnote at end of table.

## Temperature and Precipitation--Continued

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	°F	°F	°F	°F	°F	Units	In	In	In		In
CRATERS OF THE MOON NATIONAL MONUMENT											
January	28.5	9.5	19.0	47	-17	0	2.27	0.73	3.52	4	22.5
February	33.4	13.4	23.4	49	-11	1	1.48	0.54	2.35	4	15.8
March	40.7	19.6	30.2	59	-2	10	1.36	0.60	2.02	4	11.5
April	53.0	27.9	40.4	75	11	104	1.07	0.31	1.69	3	4.4
May	64.3	36.3	50.3	83	19	326	1.72	0.75	2.56	4	2.3
June	73.9	44.3	59.1	92	28	554	1.30	0.40	2.03	3	0.0
July	84.0	51.6	67.8	95	36	853	0.78	0.16	1.27	2	0.0
August	82.1	50.1	66.1	93	34	796	0.91	0.24	1.56	2	0.0
September	70.8	40.2	55.5	88	21	464	0.93	0.26	1.65	2	0.6
October	58.8	30.9	44.8	76	11	193	0.79	0.24	1.35	2	1.5
November	40.4	20.7	30.5	61	-2	12	1.43	0.70	2.17	5	11.2
December	29.6	10.6	20.1	47	-17	0	2.05	0.61	3.21	5	20.4
Yearly:											
Average	55.0	29.6	42.3	---	---	---	---	---	---	---	---
Extreme	99.0	-37	---	96	-22	---	---	---	---	---	---
Total	---	---	---	---	---	3,311	16.10	11.30	19.21	40	90.2

Average number of days per year with at least 1 inch of snow on the ground: 104

See footnote at end of table.

## Temperature and Precipitation--Continued

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	°F	°F	°F	°F	°F	Units	In	In	In		In
HOWE											
January	29.3	5.3	17.3	50	-26	1	0.68	0.24	1.13	2	4.1
February	35.6	11.6	23.6	53	-17	2	0.62	0.17	1.06	1	3.2
March	45.9	21.4	33.7	67	-2	24	0.56	0.17	0.88	2	1.8
April	59.7	30.1	44.9	81	14	170	0.60	0.13	1.09	1	0.7
May	68.7	38.5	53.6	88	23	417	1.16	0.43	1.77	3	0.1
June	77.1	45.7	61.4	94	31	639	1.35	0.40	2.12	4	0.0
July	86.5	50.4	68.5	98	37	877	0.73	0.17	1.27	1	0.0
August	84.2	48.4	66.3	96	34	812	0.94	0.20	1.58	2	0.0
September	73.4	39.0	56.2	90	23	480	0.66	0.16	1.14	1	0.0
October	60.7	29.0	44.9	78	13	186	0.50	0.15	0.86	1	0.4
November	43.2	18.9	31.0	64	-7	13	0.78	0.30	1.28	2	2.0
December	30.5	7.0	18.8	50	-24	0	0.83	0.36	1.35	2	5.9
Yearly:											
Average	57.9	28.8	43.3	---	---	---	---	---	---	---	---
Extreme	102	-38	---	98	-29	---	---	---	---	---	---
Total	---	---	---	---	---	3,621	9.41	6.80	11.39	22	18.2

Average number of days per year with at least 1 inch of snow on the ground: 37

\*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (Threshold: 40 degrees F).

## Freeze Dates in Spring and Fall

(Recorded in the period 1961-1990 at Arco 3 SW [0375], Craters of the Moon National Monument [2260], and Howe [4384], Idaho.)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
ARCO 3 SW			
Last freezing temperature in spring:			
1 year in 10 later than---	May 22	May 31	July 5
2 years in 10 later than--	May 17	May 25	June 27
5 years in 10 later than--	May 8	May 14	June 13
First freezing temperature in fall:			
1 year in 10 earlier than-----	September 14	September 1	August 23
2 years in 10 earlier than-----	September 20	September 7	August 28
5 years in 10 earlier than-----	October 1	September 17	September 6
CRATERS OF THE MOON NATIONAL MONUMENT			
Last freezing temperature in spring:			
1 year in 10 later than---	May 17	June 13	July 3
2 years in 10 later than--	May 13	June 6	June 26
5 years in 10 later than--	May 6	May 23	June 13
First freezing temperature in fall:			
1 year in 10 earlier than-----	September 17	September 7	August 24
2 years in 10 earlier than-----	September 23	September 13	August 30
5 years in 10 earlier than-----	October 6	September 23	September 11

## Freeze Dates in Spring and Fall--Continued

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
HOWE			
Last freezing temperature in spring:			
1 year in 10 later than---	May 8	May 21	June 14
2 years in 10 later than--	May 3	May 16	June 8
5 years in 10 later than--	April 24	May 8	May 26
First freezing temperature in fall:			
1 year in 10 earlier than-----	September 20	September 9	August 29
2 years in 10 earlier than-----	September 26	September 14	September 4
5 years in 10 earlier than-----	October 7	September 24	September 15

## Growing Season

(Recorded in the period 1961-1990 at Arco 3 SW  
[0375], Craters of the Moon National Monument  
[2260], and Howe [4384], Idaho)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	<i>Days</i>	<i>Days</i>	<i>Days</i>
ARCO 3 SW			
9 years in 10	120	105	61
8 years in 10	128	112	69
5 years in 10	144	125	86
2 years in 10	160	138	102
1 year in 10	169	145	111
CRATERS OF THE MOON NATIONAL MONUMENT			
9 years in 10	127	99	62
8 years in 10	136	106	71
5 years in 10	151	121	89
2 years in 10	167	136	107
1 year in 10	176	144	117
HOWE			
9 years in 10	144	118	88
8 years in 10	151	125	96
5 years in 10	165	139	112
2 years in 10	178	152	129
1 year in 10	186	159	137



## Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Bingham County	Butte County	Total	
				Area	Extent
		<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Pct</i>
1	Arco silt loam, 0 to 2 percent slopes-----	---	4,758	4,758	0.5
2	Atom silt loam, 1 to 3 percent slopes-----	1,890	1,069	2,959	0.3
3	Atom silt loam, 3 to 8 percent slopes-----	22,979	3,388	26,367	2.6
4	Atom-Splittop complex, 1 to 4 percent slopes	---	2,094	2,094	0.2
5	Bealand-Zeale complex, 10 to 70 percent slopes-----	---	7,452	7,452	0.7
6	Blackfoot loam, 0 to 2 percent slopes-----	---	6,298	6,298	0.6
7	Bluedome loam, 2 to 6 percent slopes-----	---	2,761	2,761	0.3
8	Bluedome-McCaleb complex, 2 to 6 percent slopes-----	---	2,511	2,511	0.2
9	Bockston silt loam, 0 to 4 percent slopes----	---	1,188	1,188	0.1
10	Breitenbach gravelly loam, 1 to 4 percent slopes-----	---	1,755	1,755	0.2
11	Breitenbach-Stan complex, 1 to 4 percent slopes-----	---	525	525	*
12	Buist gravelly loam, 2 to 12 percent slopes--	---	773	773	*
13	Bunting gravelly loam, 0 to 2 percent slopes	---	388	388	*
14	Coffee silt loam, 1 to 4 percent slopes-----	2,126	46	2,172	0.2
15	Coffee-Nargon complex, 4 to 20 percent slopes	14,018	414	14,432	1.4
16	Coffee-Nargon-Atom complex, 2 to 12 percent slopes-----	60,093	45,180	105,273	10.4
17	Cronks-Dacot complex, 25 to 60 percent slopes-----	---	2,247	2,247	0.2
18	Crooked Creek silt loam, 0 to 2 percent slopes-----	---	1,579	1,579	0.2
19	Cryoborolls-Rubble land-Rock outcrop complex, 30 to 80 percent slopes-----	---	2,656	2,656	0.3
20	Darlington-Lesbut complex, 1 to 4 percent slopes-----	---	13,249	13,249	1.3
21	Denied access-----	---	8,702	8,702	0.9
22	Deuce-Nargon-Lava flows complex, 2 to 12 percent slopes-----	3,412	11,641	15,053	1.5
23	Deuce-Nargon-Lava flows complex, 12 to 20 percent slopes-----	314	3,794	4,108	0.4
24	Dickeypeak-Bigrant complex, 0 to 4 percent slopes-----	---	1,929	1,929	0.2
25	Donkehill very gravelly loam, 20 to 50 percent slopes-----	---	214	214	*
26	Dredge loam, 1 to 5 percent slopes-----	---	1,390	1,390	0.1
27	Elbow gravelly loam, 1 to 4 percent slopes---	---	2,070	2,070	0.2
28	Fallert gravelly loam, 2 to 8 percent slopes	---	844	844	*
29	Fallert gravelly loam, dry, 2 to 6 percent slopes-----	---	4,286	4,286	0.4
30	Fandow gravelly loam, 2 to 6 percent slopes--	---	5,710	5,710	0.6
31	Fulwider complex, 2 to 25 percent slopes----	---	8,643	8,643	0.9
32	Goosebury very gravelly loam, high precipitation, 5 to 20 percent slopes-----	---	1,276	1,276	0.1
33	Goosebury very gravelly loam, 2 to 8 percent slopes-----	---	469	469	*
34	Goosebury complex, 10 to 35 percent slopes---	---	1,160	1,160	0.1
35	Hagenbarth-Howcan-Jonda association, 5 to 45 percent slopes-----	---	4,462	4,462	0.4
36	Hal-Moonville association, 15 to 60 percent slopes-----	---	383	383	*
37	Hondoho gravelly loam, 4 to 30 percent slopes	791	4,829	5,620	0.6
38	Howcan-Hutchley-Rock outcrop complex, 15 to 60 percent slopes-----	---	1,907	1,907	0.2
39	Howcan-Zeebar-Hutchley association, 15 to 60 percent slopes-----	---	20,050	20,050	2.0
40	Huddle-Moonville complex, 2 to 12 percent slopes-----	---	121	121	*

See footnote at end of table.

## Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Bingham County	Butte County	Total	
				Area	Extent
		<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Pct</i>
41	Ike-Rock outcrop-Jimbee association, 10 to 80 percent slopes-----	---	38,847	38,847	3.8
42	Ike-Simeroi-Rock outcrop complex, 25 to 60 percent slopes-----	---	4,034	4,034	0.4
43	Inel-Matheson-Rock outcrop complex, 10 to 45 percent slopes-----	---	615	615	*
44	Inel-Slide-Rock outcrop complex, 10 to 45 percent slopes-----	---	3,492	3,492	0.3
45	Jimbee-Rock outcrop-Ike association, 10 to 90 percent slopes-----	---	19,090	19,090	1.9
46	Jimbee-Skibo-Ike association, 20 to 60 percent slopes-----	---	3,395	3,395	0.3
47	Justesen-Drage complex, 1 to 20 percent slopes-----	---	4,597	4,597	0.5
48	Ketchum-Povey complex, 30 to 60 percent slopes-----	---	514	514	*
49	Kimama silt loam, 0 to 2 percent slopes-----	518	---	518	*
50	Klug very gravelly loam, 5 to 15 percent slopes-----	---	399	399	*
51	Klug-Parvis complex, 20 to 60 percent slopes	---	1,740	1,740	0.2
52	Lag gravelly loam, 40 to 70 percent slopes---	---	798	798	*
53	Lavacreek-Dollarhide complex, 15 to 60 percent slopes-----	---	2,541	2,541	0.3
54	Lavacreek-Dollarhide-Grassycone complex, 30 to 60 percent slopes-----	---	3,881	3,881	0.4
55	Lavacreek-Vitale association, 30 to 60 percent slopes-----	---	2,072	2,072	0.2
56	Lava flows-----	578	2,422	3,000	0.3
57	Lava flows-Cinderhurst complex, 2 to 15 percent slopes-----	---	1,485	1,485	0.1
58	Lava flows-Pingree complex, 0 to 8 percent slopes-----	39,041	3,447	42,488	4.2
59	Leatherman-Adek association, 5 to 50 percent slopes-----	---	1,645	1,645	0.2
60	Leatherman-Bluedome complex, 2 to 8 percent slopes-----	---	2,063	2,063	0.2
61	Malm-Bondfarm-Matheson complex, 2 to 8 percent slopes-----	---	21,289	21,289	2.1
62	Matheson-Grassy Butte complex, 2 to 15 percent slopes-----	---	839	839	*
63	McCain-Thornock complex, 1 to 4 percent slopes-----	2,109	---	2,109	0.2
64	McCary-Beartrap complex, 1 to 6 percent slopes-----	24,467	9,879	34,346	3.4
65	McCary-Beartrap complex, 6 to 20 percent slopes-----	655	623	1,278	0.1
66	McCary-Beartrap-Rock outcrop complex, 2 to 15 percent slopes-----	---	12,971	12,971	1.3
67	McCary-Molyneux-Lava flows complex, 2 to 15 percent slopes-----	2,328	850	3,178	0.3
68	McCary-Splittop-Lava flows complex, 4 to 8 percent slopes-----	---	10,002	10,002	1.0
69	McCary-Vickton-Lava flows complex, 0 to 15 percent slopes-----	3,952	40,195	44,147	4.4
70	McClenden-Thornock complex, 1 to 4 percent slopes-----	424	---	424	*
71	Medicine-Whiteknob complex, 0 to 1 percent slopes-----	---	9,793	9,793	1.0
72	Menan silt loam, 0 to 2 percent slopes-----	126	283	409	*
73	Mogg-Shagel association, 15 to 60 percent slopes-----	---	5,384	5,384	0.5

See footnote at end of table.

## Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Bingham County	Butte County	Total	
				Area	Extent
		<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Pct</i>
74	Mooretown-Borah complex, 0 to 2 percent slopes-----	---	2,089	2,089	0.2
75	Mooretown-Borco complex, 0 to 2 percent slopes-----	---	11,192	11,192	1.1
76	Nargon-Atom-Techicknot complex, 0 to 20 percent slopes-----	---	33,095	33,095	3.3
77	Nargon-Deuce-Lava flows complex, 0 to 20 percent slopes-----	7,994	28,987	36,981	3.6
78	Nitchly gravelly loam, 15 to 50 percent slopes-----	---	1,648	1,648	0.2
79	Nurkey-Dacont association, 5 to 35 percent slopes-----	---	2,025	2,025	0.2
80	Nurkey-Dacont association, 35 to 60 percent slopes-----	---	1,231	1,231	0.1
81	Nurkey complex, 5 to 35 percent slopes-----	---	1,492	1,492	0.1
82	Calclids-Rubble land-Rock outcrop complex, 30 to 80 percent slopes-----	457	1,718	2,175	0.2
83	Packmo-Snowslide complex, 8 to 12 percent slopes-----	---	1,026	1,026	0.1
84	Paint-Fallert complex, 4 to 12 percent slopes	---	10,022	10,022	1.0
85	Paint-Whitecloud complex, 1 to 4 percent slopes-----	---	2,729	2,729	0.3
86	Pancheri silt loam, 2 to 8 percent slopes----	5,391	---	5,391	0.5
87	Pancheri-Polatis complex, 2 to 12 percent slopes-----	34,064	---	34,064	3.4
88	Playas, 0 to 1 percent slopes-----	2	1,184	1,186	0.1
89	Polatis silt loam, 0 to 4 percent slopes----	137	---	137	*
90	Portino-Thornock complex, 1 to 4 percent slopes-----	8,226	---	8,226	0.8
91	Riverlost-Frymire complex, 5 to 50 percent slopes-----	---	3,301	3,301	0.3
92	Riverlost-Grouseville complex, 5 to 60 percent slopes-----	---	3,484	3,484	0.3
93	Riverlost-Soen complex, 5 to 40 percent slopes-----	---	1,309	1,309	0.1
94	Rubble land-Milligan complex, 60 to 75 percent slopes-----	---	1,361	1,361	0.1
95	Sanfelipe gravelly loam, 4 to 8 percent slopes-----	---	1,905	1,905	0.2
96	Sanfelipe gravelly loam, 8 to 12 percent slopes-----	---	939	939	*
97	Sanfelipe-McCaleb complex, 0 to 4 percent slopes-----	---	2,378	2,378	0.2
98	Sanfelipe-Simeroi complex, 1 to 4 percent slopes-----	---	839	839	*
99	Simeroi gravelly silt loam, 2 to 5 percent slopes-----	---	4,261	4,261	0.4
100	Simeroi gravelly silt loam, 5 to 12 percent slopes-----	---	5,354	5,354	0.5
101	Simeroi gravelly silt loam, 8 to 12 percent slopes-----	---	1,218	1,218	0.1
102	Simeroi gravelly silt loam, cool, 2 to 25 percent slopes-----	---	2,374	2,374	0.2
103	Simeroi gravelly silt loam, dry, 10 to 30 percent slopes-----	---	4,008	4,008	0.4
104	Simeroi-Paint complex, 2 to 8 percent slopes-	---	13,861	13,861	1.4
105	Simeroi complex, 5 to 30 percent slopes-----	---	9,409	9,409	0.9
106	Simeroi-Sparmo complex, 4 to 12 percent slopes-----	---	16,529	16,529	1.6
107	Simeroi-Slide-McCaleb complex, 1 to 6 percent slopes-----	---	10,724	10,724	1.1

See footnote at end of table.

## Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Bingham County	Butte County	Total	
				Area	Extent
		<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Pct</i>
108	Simeroi-Bealand association, 30 to 70 percent slopes-----	---	12,916	12,916	1.3
109	Slide gravelly loam, 2 to 10 percent slopes--	---	4,039	4,039	0.4
110	Snowslide gravelly loam, 2 to 10 percent slopes-----	---	7,429	7,429	0.7
111	Snowslide gravelly loam, 5 to 20 percent slopes-----	---	1,791	1,791	0.2
112	Snowslide-Zer complex, 1 to 5 percent slopes	---	3,311	3,311	0.3
113	Snowslide-Zer complex, 5 to 35 percent slopes	---	1,354	1,354	0.1
114	Soen clay loam, 0 to 4 percent slopes-----	---	2,099	2,099	0.2
115	Soen-Justesen complex, 4 to 12 percent slopes	---	1,609	1,609	0.2
116	Sparmo silt loam, 1 to 4 percent slopes-----	---	16,861	16,861	1.7
117	Sparmo-Bluedome complex, 1 to 4 percent slopes-----	---	2,711	2,711	0.3
118	Sparmo-Zer complex, 1 to 5 percent slopes----	---	3,126	3,126	0.3
119	Splittop-Atomic complex, 0 to 8 percent slopes-----	6,969	---	6,969	0.7
120	Splittop-Coffee complex, 0 to 8 percent slopes-----	6,831	12,624	19,455	1.9
121	Stan sandy loam, 1 to 4 percent slopes-----	---	1,801	1,801	0.2
122	Stan-Breitenbach complex, 1 to 4 percent slopes-----	---	3,304	3,304	0.3
123	Stan complex, 1 to 4 percent slopes-----	---	717	717	*
124	Starlite loam, 0 to 4 percent slopes-----	---	9,199	9,199	0.9
125	Techick-Soelberg complex, 4 to 8 percent slopes-----	---	2,406	2,406	0.2
126	Techick-Soelberg-Lesbut complex, 0 to 4 percent slopes-----	---	21,001	21,001	2.1
127	Techicknot-Atom-Nargon complex, 0 to 12 percent slopes-----	---	11,894	11,894	1.2
128	Tenno-Splittop-Lava flows complex, 4 to 8 percent slopes-----	---	1,041	1,041	0.1
129	Tenno-Splittop-McCarey complex, 1 to 4 percent slopes-----	17	147	164	*
130	Thornock-Portino complex, 4 to 8 percent slopes-----	9,826	---	9,826	1.0
131	Thornock-Portino complex, 8 to 12 percent slopes-----	3,944	---	3,944	0.4
132	Thosand-Sancrane complex, 0 to 2 percent slopes-----	---	1,907	1,907	0.2
133	Truesdale-Minidoka complex, 0 to 2 percent slopes-----	385	---	385	*
134	Vitale-Blackspar complex, 5 to 60 percent slopes-----	---	4,374	4,374	0.4
135	Whitecloud gravelly loam, 1 to 4 percent slopes-----	---	2,377	2,377	0.2
136	Whitecloud-Sanfelipe complex, 0 to 4 percent slopes-----	---	2,414	2,414	0.2
137	Zeale complex, 2 to 20 percent slopes-----	---	1,575	1,575	0.2
138	Zeale complex, 20 to 60 percent slopes-----	---	749	749	*
139	Zeale-Coalkiln-Jimbee complex, 25 to 60 percent slopes-----	---	3,800	3,800	0.4
140	Zeebar association, 20 to 50 percent slopes--	---	917	917	*
141	Zeebar-Parvis-Howcan association, 15 to 60 percent slopes-----	---	2,136	2,136	0.2
142	Zer gravelly loam, 1 to 4 percent slopes-----	---	12,566	12,566	1.2
143	Zer gravelly loam, 5 to 10 percent slopes----	---	1,380	1,380	0.1
144	Zer very gravelly loam, 4 to 20 percent slopes-----	---	2,408	2,408	0.2
145	Zer gravelly loam, 20 to 50 percent slopes---	---	372	372	*

See footnote at end of table.

## Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Bingham County	Butte County	Total	
				Area	Extent
		<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Pct</i>
146	Zer-Snowslide complex, 5 to 15 percent slopes	---	4,010	4,010	0.4
147	Zer-Whiteknob complex, 1 to 4 percent slopes	---	10,620	10,620	1.0
148	Mooretown-Blackfoot-Borah complex, 0 to 2 percent slopes-----	---	1,116	1,116	0.1
149	Drage gravelly loam, cool, 2 to 15 percent slopes-----	---	84	84	*
150	Vitale-Blackspar complex, 30 to 60 percent slopes-----	---	569	569	*
	Total-----	264,064	749,842	1,013,906	100.0

\* Less than 0.1 percent.

## Yields per Acre of Crops and Pasture

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are for those that can be expected under a high level of nonirrigated and irrigated management by component. Only the soils suited to crops and pasture are listed. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Alfalfa hay		Barley		Grass hay		Pasture		Wheat	
	N	I	N	I	N	I	N	I	N	I
	Tons	Tons	Bu	Bu	Tons	Tons	AUM	AUM	Bu	Bu
1: Arco-----	---	4.0	---	---	---	4.0	---	10.0	---	---
2: Atom-----	---	3.0	---	90.0	---	---	---	12.0	---	85.0
4: Atom-----	---	3.0	---	90.0	---	---	---	12.0	---	85.0
Splittop-----	---	3.0	---	90.0	---	---	---	12.0	---	85.0
6: Blackfoot-----	---	5.0	---	90.0	---	---	0.5	12.0	---	80.0
9: Bockston-----	---	4.0	---	90.0	---	---	---	12.0	---	85.0
10: Breitenbach-----	---	4.0	---	100.0	---	---	---	---	---	---
11: Breitenbach-----	---	4.0	---	100.0	---	---	---	---	---	---
Stan-----	---	4.0	---	100.0	---	---	---	---	---	---
20: Darlington-----	---	4.0	---	80.0	---	---	---	---	---	70.0
Lesbut-----	---	3.0	---	70.0	---	---	---	5.0	---	60.0
24: Dickeypeak-----	---	---	---	---	---	2.5	---	4.0	---	---
Bigrant-----	---	---	---	---	---	---	---	3.0	---	---
26: Dredge-----	---	---	---	60.0	---	---	---	8.0	---	---
49: Kimama-----	---	6.0	---	100.0	---	---	---	18.0	---	110.0
61: Malm-----	---	4.0	25.0	65.0	---	---	---	10.0	20.0	60.0
Bondfarm-----	---	---	---	---	---	---	---	---	---	---
Matheson-----	---	---	---	---	---	---	---	---	---	---
62: Matheson-----	---	---	---	---	---	---	---	---	---	---
Grassy Butte----	---	3.0	---	45.0	---	---	---	6.0	---	40.0
63: McCain-----	---	4.0	---	90.0	---	---	---	12.0	---	85.0

## Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Alfalfa hay		Barley		Grass hay		Pasture		Wheat	
	N	I	N	I	N	I	N	I	N	I
	Tons	Tons	Bu	Bu	Tons	Tons	AUM	AUM	Bu	Bu
63: Thornock-----	---	2.0	---	50.0	---	---	---	7.0	---	65.0
70: McClenden-----	---	5.0	---	75.0	---	---	---	12.0	---	65.0
Thornock-----	---	2.0	---	60.0	---	---	---	5.0	---	50.0
71: Medicine-----	---	---	---	70.0	---	---	---	7.5	---	65.0
Whiteknob-----	---	4.0	---	100.0	---	---	---	8.0	---	---
74: Mooretown-----	---	---	---	---	---	---	---	---	---	---
Borah-----	---	---	---	---	---	4.0	---	10.0	---	---
75: Mooretown, drained-----	---	---	---	75.0	---	---	---	8.0	---	70.0
Borco-----	---	---	---	70.0	---	---	---	7.0	---	65.0
89: Polatis-----	---	5.0	---	85.0	---	---	---	7.0	---	65.0
90: Portino-----	---	5.0	---	85.0	---	---	---	12.0	---	65.0
Thornock-----	---	5.0	---	85.0	---	---	---	12.0	---	65.0
95: Sanfelipe-----	---	2.5	---	60.0	---	---	---	3.0	---	---
96: Sanfelipe-----	---	2.5	---	60.0	---	---	---	3.0	---	---
98: Sanfelipe-----	---	2.5	---	60.0	---	---	---	3.0	---	---
Simeroi-----	---	4.0	---	100.0	---	---	---	8.0	---	---
101: Simeroi-----	---	4.0	---	100.0	---	---	---	8.0	---	---
106: Simeroi-----	---	4.0	---	100.0	---	---	---	8.0	---	---
Sparmo-----	---	3.0	---	75.0	---	---	---	5.0	---	---
114: Soen-----	---	5.0	---	60.0	---	---	---	---	---	50.0
115: Soen-----	---	4.0	---	55.0	---	---	---	---	---	50.0
Justesen-----	---	4.0	20.0	55.0	---	---	---	10.0	10.0	45.0
116: Sparmo-----	---	3.0	---	75.0	---	---	---	5.0	---	---



## Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Alfalfa hay		Barley		Grass hay		Pasture		Wheat	
	N	I	N	I	N	I	N	I	N	I
	Tons	Tons	Bu	Bu	Tons	Tons	AUM	AUM	Bu	Bu
121: Stan-----	---	5.0	---	100.0	---	---	---	10.0	---	---
122: Stan-----	---	5.0	---	100.0	---	---	---	10.0	---	---
Breitenbach----	---	4.0	---	100.0	---	---	---	10.0	---	---
123: Stan, loamy fine sand surface---	---	3.0	---	70.0	---	---	---	---	---	---
Stan-----	---	5.0	---	100.0	---	---	---	---	---	---
124: Starlite-----	---	5.0	---	75.0	---	---	---	---	---	65.0
125: Techick-----	---	3.0	---	50.0	---	---	---	6.0	---	50.0
Soelberg-----	---	---	20.0	65.0	---	---	0.5	10.0	15.0	60.0
126: Techick-----	---	4.0	---	60.0	---	---	---	8.0	---	60.0
Soelberg-----	---	---	20.0	80.0	---	---	---	12.5	15.0	75.0
Lesbut-----	---	3.0	---	70.0	---	---	---	5.0	---	60.0
129: Tenno-----	---	2.0	---	50.0	---	---	---	4.0	---	35.0
Splittop-----	---	3.0	---	70.0	---	---	---	6.0	---	65.0
McCarey-----	---	3.0	25.0	70.0	---	---	---	6.0	22.0	65.0
130: Thornock-----	---	2.0	---	50.0	---	---	---	7.0	---	50.0
Portino-----	---	5.0	---	85.0	---	---	0.5	12.0	---	65.0
131: Thornock-----	---	---	---	---	---	---	---	6.0	---	---
Portino-----	---	---	---	---	---	---	---	10.0	---	---
132: Thosand-----	---	---	---	---	---	---	4.0	---	---	---
Sancrane-----	---	---	---	---	---	---	3.0	---	---	---
133: Truesdale-----	---	4.0	---	90.0	---	---	---	---	---	90.0
Minidoka-----	---	5.0	---	95.0	---	---	---	18.0	---	95.0
143: Zer-----	---	---	---	---	---	---	---	3.0	---	---
147: Zer-----	---	2.2	---	60.0	---	---	---	3.8	---	---

Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Alfalfa hay		Barley		Grass hay		Pasture		Wheat	
	N	I	N	I	N	I	N	I	N	I
	<i>Tons</i>	<i>Tons</i>	<i>Bu</i>	<i>Bu</i>	<i>Tons</i>	<i>Tons</i>	<i>AUM</i>	<i>AUM</i>	<i>Bu</i>	<i>Bu</i>
147: Whiteknob-----	---	4.0	---	100.0	---	---	---	8.0	---	---
148: Mooretown-----	---	---	---	---	---	---	---	---	---	---
Blackfoot-----	---	4.5	---	75.0	---	---	---	10.0	---	---
Borah-----	---	---	---	---	---	4.0	---	10.0	---	---

## Land Capability Classification

Map symbol and soil name	Land capability subclass	
	Non-irrigated	Irrigated
1: Arco-----	4c	3w
2: Atom-----	6c	3c
3: Atom-----	6e	---
4: Atom-----	6c	3c
Splittop-----	6c	3c
5: Bealand-----	7e	---
Zeale-----	6e	---
6: Blackfoot-----	6c	3c
7: Bluedome-----	6e	---
8: Bluedome-----	6e	---
McCaleb-----	6e	---
9: Bockston-----	6e	3e
10: Breitenbach-----	6c	3c
11: Breitenbach-----	6c	3c
Stan-----	6e	3e
12: Buist-----	6e	---
13: Bunting-----	4c	---
14: Coffee-----	6c	---
15: Coffee-----	6e	---
Nargon-----	6e	---
16: Coffee-----	6e	---
Nargon-----	6e	---

## Land Capability Classification--Continued

Map symbol and soil name	Land capability subclass	
	Non-irrigated	Irrigated
16: Atom-----	6e	---
17: Cronks-----	6e	---
Dacont-----	7e	---
18: Crooked Creek-----	4s	---
19: Cryoborolls-----	7e	---
Rubble land-----	---	---
Rock outcrop-----	---	---
20: Darlington-----	6c	4s
Lesbut-----	6s	4s
21: Denied access-----	---	---
22: Deuce-----	6e	---
Nargon-----	6e	---
Lava flows-----	---	---
23: Deuce-----	6e	---
Nargon-----	6e	---
Lava flows-----	---	---
24: Dickeypeak-----	6s	4s
Bigrant-----	4w	4w
25: Donkehill-----	6e	---
26: Dredge-----	4e	4e
27: Elbow-----	6c	---
28: Fallert-----	6e	---
29: Fallert, dry-----	6e	---

## Land Capability Classification--Continued

Map symbol and soil name	Land capability subclass	
	Non-irrigated	Irrigated
30: Fandow-----	7s	---
31: Fulwider, high precipitation-----	6e	---
Fulwider, low precipitation-----	6e	---
Fulwider-----	6e	---
32: Goosebury, high precipitation-----	6e	---
33: Goosebury-----	6e	---
34: Goosebury, low precipitation-----	6e	---
Goosebury, high precipitation-----	6e	---
35: Hagenbarth-----	6e	---
Howcan-----	6s	---
Jonda-----	6e	---
36: Hal-----	7e	---
Moonville-----	6e	---
37: Hondoho-----	4e	---
38: Howcan-----	6e	---
Hutchley-----	6e	---
Rock outcrop-----	---	---
39: Howcan-----	6e	---
Zeebar-----	6e	---
Hutchley-----	6e	---
40: Huddle-----	3e	---
Moonville-----	3e	---
41: Ike-----	7e	---
Rock outcrop-----	---	---
Jimbee-----	7e	---

## Land Capability Classification--Continued

Map symbol and soil name	Land capability subclass	
	Non-irrigated	Irrigated
42:		
Ike-----	7e	---
Simeroi-----	7e	---
Rock outcrop-----	---	---
43:		
Inel-----	6e	---
Matheson-----	6e	---
Rock outcrop-----	---	---
44:		
Inel-----	6e	---
Slide-----	6e	---
Rock outcrop-----	---	---
45:		
Jimbee-----	7e	---
Rock outcrop-----	---	---
Ike-----	7e	---
46:		
Jimbee-----	7e	---
Skibo-----	7e	---
Ike-----	7e	---
47:		
Justesen-----	3e	---
Drage-----	4e	---
48:		
Ketchum-----	6e	---
Povey-----	7e	---
49:		
Kimama-----	6c	2c
50:		
Klug-----	6e	---
51:		
Klug-----	7e	---
Parvis-----	7e	---
52:		
Lag-----	7e	---
53:		
Lavacreek-----	7e	---

## Land Capability Classification--Continued

Map symbol and soil name	Land capability subclass	
	Non-irrigated	Irrigated
53: Dollarhide-----	7e	---
54: Lavacreek-----	7e	---
Dollarhide-----	7s	---
Grassycone-----	7e	---
55: Lavacreek-----	7e	---
Vitale-----	7e	---
56: Lava flows-----	---	---
57: Lava flows-----	---	---
Cinderhurst-----	7s	---
58: Lava flows-----	---	---
Pingree-----	7s	---
59: Leatherman-----	6e	---
Adek, dry-----	6e	---
Adek-----	6e	---
60: Leatherman-----	7s	---
Bluedome-----	6e	---
61: Malm-----	6e	4e
Bondfarm-----	7s	---
Matheson-----	6e	---
62: Matheson-----	6e	---
Grassy Butte-----	7e	---
63: McCain-----	6s	3e
Thornock-----	6s	4s
64: McCarey-----	4s	---
Beartrap-----	4c	---



## Land Capability Classification--Continued

Map symbol and soil name	Land capability subclass	
	Non-irrigated	Irrigated
65:		
McCarey-----	4e	---
Beartrap-----	4e	---
66:		
McCarey-----	4e	---
Beartrap-----	4e	---
Rock outcrop-----	---	---
67:		
McCarey-----	4e	---
Molyneux-----	3e	---
Lava flows-----	---	---
68:		
McCarey-----	4e	---
Splittop-----	4e	---
Lava flows-----	---	---
69:		
McCarey-----	4e	---
Vickton-----	3e	---
Lava flows-----	---	---
70:		
McClenden-----	6e	2e
Thornock-----	6s	4s
71:		
Medicine-----	6c	3s
Whiteknob-----	6s	4s
72:		
Menan-----	6c	---
73:		
Mogg-----	7e	---
Shagel-----	7e	---
74:		
Mooretown-----	4w	4w
Borah-----	5w	5w
75:		
Mooretown, drained-----	6e	3e
Borco-----	6s	4s

## Land Capability Classification--Continued

Map symbol and soil name	Land capability subclass	
	Non-irrigated	Irrigated
76:		
Nargon-----	6e	---
Atom-----	6e	---
Techicknot-----	6e	---
77:		
Nargon-----	6e	---
Deuce-----	6e	---
Lava flows-----	---	---
78:		
Nitchly-----	6e	---
79:		
Nurkey-----	6e	---
Dacont-----	6e	---
80:		
Nurkey-----	7e	---
Dacont-----	7e	---
81:		
Nurkey-----	6e	---
Nurkey, low precipitation-----	6e	---
82:		
Calcids-----	7e	---
Rubble land-----	---	---
Rock outcrop-----	---	---
83:		
Packmo-----	6e	---
Snowslide-----	7e	---
84:		
Paint-----	7e	---
Fallert-----	6e	---
85:		
Paint-----	7s	---
Whitecloud-----	6s	---
86:		
Pancheri-----	6e	---
87:		
Pancheri-----	6e	---
Polatis-----	6c	---

## Land Capability Classification--Continued

Map symbol and soil name	Land capability subclass	
	Non-irrigated	Irrigated
88: Playas-----	---	---
89: Polatis-----	6s	3e
90: Portino-----	6s	2e
Thornock-----	6s	4s
91: Riverlost-----	4e	---
Frymire-----	6e	---
92: Riverlost-----	4e	---
Grouseville-----	7e	---
93: Riverlost-----	4e	---
Soen-----	4e	---
94: Rubble land-----	---	---
Milligan-----	7e	---
95: Sanfelipe-----	6e	3e
96: Sanfelipe-----	6e	4e
97: Sanfelipe-----	6e	---
McCaleb-----	6e	---
98: Sanfelipe-----	6e	3e
Simeroi-----	6e	3e
99: Simeroi-----	6e	---
100: Simeroi-----	6e	---
101: Simeroi-----	6e	4e
102: Simeroi, cool-----	6e	---
103: Simeroi, dry-----	6e	---

## Land Capability Classification--Continued

Map symbol and soil name	Land capability subclass	
	Non-irrigated	Irrigated
104:		
Simeroi-----	6e	---
Paint-----	7e	---
105:		
Simeroi, dry-----	6e	---
Simeroi-----	6e	---
106:		
Simeroi-----	6e	4e
Sparmo-----	6e	3e
107:		
Simeroi-----	6e	---
Slide-----	6e	---
McCaleb-----	6e	---
108:		
Simeroi-----	7e	---
Bealand-----	7e	---
109:		
Slide-----	6e	---
110:		
Snowslide-----	7e	---
111:		
Snowslide-----	7e	---
112:		
Snowslide-----	7s	---
Zer-----	6e	---
113:		
Snowslide-----	7e	---
Zer-----	6e	---
Snowslide, low precipitation-----	7e	---
114:		
Soen-----	3c	3c
115:		
Soen-----	3e	4e
Justesen-----	3e	4e
116:		
Sparmo-----	6e	3e
117:		
Sparmo-----	6e	---

## Land Capability Classification--Continued

Map symbol and soil name	Land capability subclass	
	Non-irrigated	Irrigated
117: Bluedome-----	6e	---
118: Sparmo-----	6e	---
Zer-----	6e	---
119: Splittop-----	4e	---
Atomic-----	6e	---
120: Splittop-----	4e	---
Coffee-----	6e	---
121: Stan-----	6e	3e
122: Stan-----	6e	3e
Breitenbach-----	6c	3c
123: Stan, loamy fine sand surface-----	6e	3e
Stan-----	6e	3e
124: Starlite-----	6c	3c
125: Techick-----	4e	3e
Soelberg-----	6e	4e
126: Techick-----	4c	3e
Soelberg-----	6c	3e
Lesbut-----	6s	4s
127: Techicknot-----	4e	---
Atom-----	6e	---
Nargon-----	6e	---
128: Tenno-----	6s	---
Splittop-----	4e	---
Lava flows-----	---	---

## Land Capability Classification--Continued

Map symbol and soil name	Land capability subclass	
	Non-irrigated	Irrigated
129:		
Tenno-----	6s	4s
Splittop-----	4c	3c
McCarey-----	4s	3e
130:		
Thornock-----	6s	4e
Portino-----	6e	3e
131:		
Thornock-----	6s	4e
Portino-----	6e	4e
132:		
Thosand-----	5w	---
Sancrane-----	5w	---
133:		
Truesdale-----	6s	3s
Minidoka-----	6s	3s
134:		
Vitale-----	6e	---
Blackspar-----	7e	---
135:		
Whitecloud-----	6s	---
136:		
Whitecloud-----	6s	---
Sanfelipe-----	6s	---
137:		
Zeale-----	6e	---
Zeale, high precipitation-----	6e	---
138:		
Zeale-----	7e	---
Zeale, high precipitation-----	7e	---
139:		
Zeale-----	7e	---
Coalkiln-----	7e	---
Jimbee-----	7e	---
140:		
Zeebar, cool-----	6e	---
Zeebar-----	6e	---

## Land Capability Classification--Continued

Map symbol and soil name	Land capability subclass	
	Non-irrigated	Irrigated
141:		
Zeebar-----	6e	---
Parvis-----	7e	---
Howcan-----	6s	---
142:		
Zer-----	6c	---
143:		
Zer-----	6e	4e
144:		
Zer-----	6e	---
145:		
Zer-----	6e	---
146:		
Zer-----	6e	---
Snowslide-----	7e	---
147:		
Zer-----	6s	4s
Whiteknob-----	6s	4s
148:		
Mooretown-----	4w	---
Blackfoot-----	3w	2w
Borah-----	5w	5w
149:		
Drage, cool-----	4e	---
150:		
Vitale-----	7e	---
Blackspar-----	7e	---



## Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1: Arco-----	85	Somewhat limited Depth to saturated zone Flooding Slow water movement	0.65  0.60 0.41	Very limited Flooding Depth to saturated zone Slow water movement	1.00  0.65 0.31
2: Atom-----	80	Very limited Sodium content Slow water movement Salinity	1.00 0.41 0.06	Very limited Sodium content Slow water movement	1.00 0.31
3: Atom-----	85	Very limited Sodium content Slow water movement Salinity	1.00 0.41 0.06	Very limited Sodium content Slow water movement	1.00 0.31
4: Atom-----	50	Very limited Sodium content Slow water movement Salinity	1.00 0.41 0.06	Very limited Sodium content Slow water movement	1.00 0.31
Splittop-----	40	Somewhat limited Depth to bedrock Droughty	0.16 0.11	Somewhat limited Depth to bedrock Droughty	0.16 0.11
5: Bealand-----	60	Very limited Slope	1.00	Very limited Slope	1.00
Zeale-----	25	Very limited Slope Droughty	1.00 0.32	Very limited Slope Droughty	1.00 0.32
6: Blackfoot-----	85	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.41	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.31

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
7: Bluedome-----	80	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Sodium content	 0.06 0.06  0.05 0.02	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Sodium content	 0.06 0.06  0.05 0.02
8: Bluedome-----	50	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Sodium content	 0.65 0.64  0.51 0.02	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Sodium content	 0.65 0.64  0.51 0.02
McCaleb-----	30	Somewhat limited Sodium content	 0.08	Somewhat limited Sodium content	 0.08
9: Bockston-----	80	Somewhat limited Filtering capacity	 0.01	Somewhat limited Filtering capacity	 0.01
10: Breitenbach-----	80	Very limited Filtering capacity Droughty	 1.00 0.27	Very limited Filtering capacity Droughty	 1.00 0.27
11: Breitenbach-----	65	Very limited Filtering capacity Droughty Strongly contrasting textural stratification	 1.00 0.22 0.15	Very limited Filtering capacity Droughty Strongly contrasting textural stratification	 1.00 0.22 0.15
Stan-----	25	Very limited Filtering capacity Droughty Leaching	 1.00 0.64 0.45	Very limited Filtering capacity Droughty	 1.00 0.64
12: Buist-----	90	Somewhat limited Droughty Filtering capacity	 0.29 0.01	Somewhat limited Droughty Filtering capacity	 0.29 0.01

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
13: Bunting-----	95	Very limited Filtering capacity Strongly contrasting textural stratification Droughty Leaching	1.00 0.97 0.91 0.45	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	1.00 0.97 0.91
14: Coffee-----	80	Very limited Sodium content Salinity Droughty	1.00 0.78 0.10	Very limited Sodium content Salinity Droughty	1.00 0.50 0.10
15: Coffee-----	45	Very limited Sodium content Salinity Slope Droughty	1.00 0.78 0.63 0.10	Very limited Sodium content Slope Salinity Droughty	1.00 0.63 0.50 0.10
Nargon-----	30	Somewhat limited Depth to bedrock Slope Droughty Slow water movement	0.97 0.63 0.62 0.41	Somewhat limited Depth to bedrock Slope Droughty Slow water movement	0.97 0.63 0.62 0.31
16: Coffee-----	30	Very limited Sodium content Salinity Droughty	1.00 0.78 0.10	Very limited Sodium content Salinity Droughty	1.00 0.50 0.10
Nargon-----	30	Somewhat limited Depth to bedrock Droughty Slow water movement	0.97 0.62 0.41	Somewhat limited Depth to bedrock Droughty Slow water movement	0.97 0.62 0.31
Atom-----	15	Very limited Sodium content Slow water movement Salinity	1.00 0.41 0.06	Very limited Sodium content Slow water movement	1.00 0.31
17: Cronks-----	40	Very limited Slope Slow water movement Cobble content	1.00 1.00 0.02	Very limited Slope Slow water movement Cobble content	1.00 1.00 0.02

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
17: Dacont-----	35	Very limited Slope Droughty Sodium content Filtering capacity	1.00 0.04 0.02 0.01	Very limited Slope Droughty Sodium content Filtering capacity	1.00 0.04 0.02 0.01
18: Crooked Creek-----	85	Very limited Slow water movement Runoff	1.00 0.40	Very limited Slow water movement	1.00
19: Cryoborolls-----	50	Very limited Slope Cobble content Droughty	1.00 0.95 0.62	Very limited Slope Cobble content Droughty	1.00 0.95 0.62
Rubble land-----	20	Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated	
20: Darlington-----	60	Very limited Filtering capacity Leaching Droughty Strongly contrasting textural stratification	1.00 0.45 0.41 0.20	Very limited Filtering capacity Droughty Strongly contrasting textural stratification	1.00 0.41 0.20
Lesbut-----	35	Very limited Filtering capacity Strongly contrasting textural stratification Droughty Leaching	1.00 1.00 0.90 0.45	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	1.00 1.00 0.90
21: Denied access-----	100	Not rated		Not rated	
22: Deuce-----	45	Very limited Depth to bedrock Droughty Runoff Large stones on the surface	1.00 1.00 0.40 0.32	Very limited Depth to bedrock Droughty Large stones on the surface	1.00 1.00 0.32

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
22: Nargon-----	20	Somewhat limited Depth to bedrock Droughty Slow water movement	0.97 0.65 0.41	Somewhat limited Depth to bedrock Droughty Slow water movement	0.97 0.65 0.31
Lava flows-----	15	Not rated		Not rated	
23: Deuce-----	35	Very limited Depth to bedrock Droughty Slope Runoff Large stones on the surface	1.00 1.00 1.00 0.40 0.32	Very limited Depth to bedrock Droughty Slope Large stones on the surface	1.00 1.00 1.00 0.32
Nargon-----	20	Very limited Slope Depth to bedrock Droughty Slow water movement	1.00 0.99 0.85 0.41	Very limited Slope Depth to bedrock Droughty Slow water movement	1.00 0.99 0.85 0.31
Lava flows-----	20	Not rated		Not rated	
24: Dickeypeak-----	50	Very limited Sodium content Depth to saturated zone Salinity Filtering capacity	1.00 0.84 0.78 0.01	Very limited Salinity Sodium content Depth to saturated zone Filtering capacity	1.00 1.00 0.84 0.01
Bigrant-----	40	Very limited Depth to saturated zone Flooding Sodium content Slow water movement Salinity	1.00 0.60 0.50 0.41 0.06	Very limited Depth to saturated zone Flooding Salinity Sodium content Slow water movement	1.00 1.00 0.50 0.50 0.31
25: Donkehill-----	85	Very limited Slope Droughty Depth to bedrock Runoff	1.00 1.00 1.00 0.40	Very limited Droughty Slope Depth to bedrock	1.00 1.00 1.00
26: Dredge-----	80	Not limited		Not limited	

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
27: Elbow-----	80	Very limited Droughty Depth to bedrock Depth to cemented pan Filtering capacity	1.00 0.95 0.95 0.01	Very limited Droughty Depth to bedrock Depth to cemented pan Filtering capacity	1.00 0.95 0.95 0.01
28: Fallert-----	80	Very limited Strongly contrasting textural stratification Droughty Salinity Filtering capacity	1.00 1.00 0.01 0.01	Very limited Strongly contrasting textural stratification Droughty Filtering capacity	1.00 1.00 0.01
29: Fallert, dry-----	80	Very limited Strongly contrasting textural stratification Droughty Salinity Filtering capacity	1.00 0.99 0.01 0.01	Very limited Strongly contrasting textural stratification Droughty Filtering capacity	1.00 0.99 0.01
30: Fandow-----	80	Very limited Depth to bedrock Depth to cemented pan Droughty Runoff	1.00 1.00 1.00 0.40	Very limited Droughty Depth to bedrock Depth to cemented pan	1.00 1.00 1.00
31: Fulwider, high precipitation-----	40	Very limited Depth to cemented pan Droughty Depth to bedrock Slope Runoff	1.00 1.00 1.00 0.96 0.40	Very limited Droughty Depth to cemented pan Depth to bedrock Slope Sodium content	1.00 1.00 1.00 0.96 0.32
Fulwider, low precipitation-----	30	Very limited Depth to cemented pan Droughty Depth to bedrock Slope Runoff	1.00 1.00 1.00 0.96 0.40	Very limited Droughty Depth to cemented pan Depth to bedrock Slope Sodium content	1.00 1.00 1.00 0.96 0.32

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31: Fulwider-----	15	Very limited Depth to cemented pan Droughty Dense layer Depth to bedrock Slope	1.00 1.00 1.00 1.00 0.96	Very limited Droughty Depth to cemented pan Depth to bedrock Slope Sodium content	1.00 1.00 1.00 0.96 0.32
32: Goosebury, high precipitation-----	90	Very limited Filtering capacity Droughty Slope	1.00 0.89 0.84	Very limited Filtering capacity Droughty Slope	1.00 0.89 0.84
33: Goosebury-----	80	Very limited Filtering capacity Droughty	1.00 0.89	Very limited Filtering capacity Droughty	1.00 0.89
34: Goosebury, low precipitation-----	45	Very limited Slope Droughty Filtering capacity	1.00 0.68 0.01	Very limited Slope Droughty Filtering capacity	1.00 0.68 0.01
Goosebury, high precipitation-----	35	Very limited Filtering capacity Slope Droughty	1.00 1.00 0.52	Very limited Filtering capacity Slope Droughty	1.00 1.00 0.52
35: Hagenbarth-----	30	Very limited Slope Slow water movement	1.00 0.41	Very limited Slope Slow water movement	1.00 0.31
Howcan-----	25	Very limited Slope Droughty Large stones on the surface Filtering capacity	1.00 0.63 0.02 0.01	Very limited Slope Droughty Large stones on the surface Filtering capacity	1.00 0.63 0.02 0.01
Jonda-----	20	Very limited Slope Filtering capacity Droughty Slow water movement	1.00 0.99 0.87 0.41	Very limited Slope Filtering capacity Droughty Slow water movement	1.00 0.99 0.87 0.31



Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
36: Hal-----	60	Very limited Slope Filtering capacity	1.00 0.99	Very limited Slope Filtering capacity	1.00 0.99
Moonville-----	25	Very limited Slope	1.00	Very limited Slope	1.00
37: Hondoho-----	85	Very limited Slope Cobble content	1.00 0.02	Very limited Slope Cobble content	1.00 0.02
38: Howcan-----	50	Very limited Slope Droughty Large stones on the surface Filtering capacity	1.00 0.63 0.02 0.01	Very limited Slope Droughty Large stones on the surface Filtering capacity	1.00 0.63 0.02 0.01
Hutchley-----	35	Very limited Slope Droughty Depth to bedrock Slow water movement Runoff	1.00 1.00 1.00 0.41 0.40	Very limited Droughty Slope Depth to bedrock Slow water movement Cobble content	1.00 1.00 1.00 0.31 0.08
Rock outcrop-----	10	Not rated		Not rated	
39: Howcan-----	35	Very limited Slope Droughty Large stones on the surface Filtering capacity	1.00 0.63 0.02 0.01	Very limited Slope Droughty Large stones on the surface Filtering capacity	1.00 0.63 0.02 0.01
Zeebar-----	25	Very limited Slope Slow water movement Droughty	1.00 0.41 0.23	Very limited Slope Slow water movement Droughty	1.00 0.31 0.23
Hutchley-----	20	Very limited Slope Droughty Depth to bedrock Slow water movement Runoff	1.00 1.00 1.00 0.41 0.40	Very limited Droughty Slope Depth to bedrock Slow water movement Cobble content	1.00 1.00 1.00 0.31 0.08
40: Huddle-----	65	Somewhat limited Sodium content	0.02	Somewhat limited Sodium content	0.02

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
40: Moonville-----	20	Not limited		Not limited	
41: Ike-----	40	Very limited		Very limited	
		Droughty	1.00	Droughty	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00
		Runoff	0.40		
Rock outcrop-----	20	Not rated		Not rated	
Jimbee-----	15	Very limited		Very limited	
		Droughty	1.00	Droughty	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00
		Runoff	0.40		
42: Ike-----	45	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40		
Simeroi-----	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.50	Droughty	0.50
Rock outcrop-----	10	Not rated		Not rated	
43: Inel-----	35	Very limited		Very limited	
		Slope	1.00	Droughty	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Runoff	0.40		
Matheson-----	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Droughty	0.11	Droughty	0.11
Rock outcrop-----	25	Not rated		Not rated	
44: Inel-----	55	Very limited		Very limited	
		Droughty	1.00	Droughty	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00
		Runoff	0.40		
Slide-----	15	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Droughty	0.67	Droughty	0.67
Rock outcrop-----	15	Not rated		Not rated	

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
45: Jimbee-----	40	Very limited Droughty Depth to bedrock Slope Runoff	1.00 1.00 1.00 0.40	Very limited Droughty Depth to bedrock Slope	1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	
Ike-----	15	Very limited Droughty Depth to bedrock Slope Runoff	1.00 1.00 1.00 0.40	Very limited Droughty Depth to bedrock Slope	1.00 1.00 1.00
46: Jimbee-----	40	Very limited Slope Droughty Depth to bedrock Runoff Large stones on the surface	1.00 1.00 1.00 0.40 0.32	Very limited Droughty Slope Depth to bedrock Large stones on the surface	1.00 1.00 1.00 0.32
Skibo-----	30	Very limited Slope Droughty	1.00 0.07	Very limited Slope Droughty	1.00 0.07
Ike-----	15	Very limited Slope Droughty Depth to bedrock Runoff	1.00 1.00 1.00 0.40	Very limited Droughty Slope Depth to bedrock	1.00 1.00 1.00
47: Justesen-----	45	Somewhat limited Slow water movement Slope	0.41 0.37	Somewhat limited Slope Slow water movement	0.37 0.31
Drage-----	40	Somewhat limited Slope Slow water movement Droughty	0.84 0.41 0.05	Somewhat limited Slope Slow water movement Droughty	0.84 0.31 0.05
48: Ketchum-----	50	Very limited Slope Filtering capacity Too acid	1.00 0.99 0.50	Very limited Slope Filtering capacity Too acid	1.00 0.99 0.99
Povey-----	30	Very limited Slope Droughty	1.00 1.00	Very limited Slope Droughty	1.00 1.00
49: Kimama-----	90	Not limited		Not limited	

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
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Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
50: Klug-----	90	Somewhat limited Droughty Slope	0.26 0.16	Somewhat limited Droughty Slope	0.26 0.16
51: Klug-----	60	Very limited Slope Droughty	1.00 0.26	Very limited Slope Droughty	1.00 0.26
Parvis-----	20	Very limited Slope Slow water movement Droughty	1.00 0.41 0.06	Very limited Slope Slow water movement Droughty	1.00 0.31 0.06
52: Lag-----	90	Very limited Slope Filtering capacity Droughty Too acid	1.00 0.99 0.66 0.50	Very limited Slope Filtering capacity Too acid Droughty	1.00 0.99 0.99 0.66
53: Lavacreek-----	65	Very limited Slope Cobble content Dense layer Filtering capacity	1.00 1.00 1.00 0.01	Very limited Slope Cobble content Filtering capacity	1.00 1.00 0.01
Dollarhide-----	25	Very limited Slope Droughty Depth to bedrock Runoff Filtering capacity	1.00 1.00 1.00 0.40 0.01	Very limited Droughty Slope Depth to bedrock Filtering capacity	1.00 1.00 1.00 0.01
54: Lavacreek-----	45	Very limited Slope Cobble content Dense layer Filtering capacity	1.00 1.00 1.00 0.01	Very limited Slope Cobble content Filtering capacity	1.00 1.00 0.01
Dollarhide-----	20	Very limited Slope Droughty Depth to bedrock Runoff Filtering capacity	1.00 1.00 1.00 0.40 0.01	Very limited Droughty Slope Depth to bedrock Filtering capacity	1.00 1.00 1.00 0.01

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
54: Grassycone-----	20	Very limited Slope Filtering capacity Too acid Leaching	1.00 0.99 0.50 0.45	Very limited Slope Filtering capacity Too acid	1.00 0.99 0.99
55: Lavacreek-----	45	Very limited Slope Cobble content Dense layer Filtering capacity	1.00 1.00 1.00 0.01	Very limited Slope Cobble content Filtering capacity	1.00 1.00 0.01
Vitale-----	35	Very limited Slope Droughty Cobble content Slow water movement Depth to bedrock	1.00 1.00 1.00 0.41 0.20	Very limited Droughty Slope Cobble content Slow water movement Depth to bedrock	1.00 1.00 1.00 0.31 0.20
56: Lava flows-----	100	Not rated		Not rated	
57: Lava flows-----	70	Not rated		Not rated	
Cinderhurst-----	20	Very limited Depth to bedrock Cobble content Droughty Runoff Slope	1.00 1.00 1.00 0.40 0.04	Very limited Droughty Depth to bedrock Cobble content Slope	1.00 1.00 1.00 0.04
58: Lava flows-----	60	Not rated		Not rated	
Pingree-----	35	Very limited Depth to bedrock Droughty Runoff	1.00 1.00 0.40	Very limited Droughty Depth to bedrock	1.00 1.00
59: Leatherman-----	45	Very limited Slope Depth to cemented pan Droughty Depth to bedrock Sodium content	1.00 1.00 1.00 1.00 0.82	Very limited Droughty Depth to cemented pan Slope Depth to bedrock Sodium content	1.00 1.00 1.00 1.00 0.82
Adek, dry-----	20	Somewhat limited Slope Droughty Sodium content	0.84 0.38 0.02	Somewhat limited Slope Droughty Sodium content	0.84 0.38 0.02

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
59: Adek-----	15	Very limited Slope Droughty Sodium content	1.00 0.39 0.02	Very limited Slope Droughty Sodium content	1.00 0.39 0.02
60: Leatherman-----	45	Very limited Depth to cemented pan Droughty Depth to bedrock Sodium content Runoff	1.00 1.00 1.00 0.82 0.40	Very limited Droughty Depth to cemented pan Depth to bedrock Sodium content	1.00 1.00 1.00 0.82
Bluedome-----	30	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Sodium content	0.97 0.97 0.96 0.02	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Sodium content	0.97 0.97 0.96 0.02
61: Malm-----	60	Somewhat limited Droughty Depth to bedrock Filtering capacity	0.40 0.01 0.01	Somewhat limited Droughty Depth to bedrock Filtering capacity	0.40 0.01 0.01
Bondfarm-----	20	Very limited Droughty Depth to bedrock Runoff Cobble content Filtering capacity	1.00 1.00 0.40 0.01 0.01	Very limited Droughty Depth to bedrock Cobble content Filtering capacity	1.00 1.00 0.01 0.01
Matheson-----	15	Very limited Filtering capacity Droughty	0.99 0.11	Very limited Filtering capacity Droughty	0.99 0.11
62: Matheson-----	70	Very limited Filtering capacity Droughty Slope	0.99 0.11 0.04	Very limited Filtering capacity Droughty Slope	0.99 0.11 0.04
Grassy Butte-----	20	Very limited Filtering capacity Slope Droughty Leaching Sodium content	0.99 0.96 0.65 0.45 0.02	Very limited Filtering capacity Slope Droughty Sodium content	0.99 0.96 0.65 0.02

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
63: McCain-----	65	Somewhat limited Depth to bedrock Slow water movement Droughty	0.65 0.41 0.25	Somewhat limited Depth to bedrock Slow water movement Droughty	0.65 0.31 0.25
Thornock-----	20	Very limited Droughty Depth to bedrock Large stones on the surface Slow water movement Runoff	1.00 1.00 1.00 0.41 0.40	Very limited Droughty Depth to bedrock Large stones on the surface Slow water movement Sodium content	1.00 1.00 1.00 0.31 0.08
64: McCarey-----	45	Somewhat limited Slow water movement Depth to bedrock	0.41 0.20	Somewhat limited Slow water movement Depth to bedrock	0.31 0.20
Beartrap-----	35	Not limited		Not limited	
65: McCarey-----	60	Somewhat limited Slope Slow water movement Depth to bedrock	0.84 0.41 0.20	Somewhat limited Slope Slow water movement Depth to bedrock	0.84 0.31 0.20
Beartrap-----	25	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84
66: McCarey-----	40	Somewhat limited Slow water movement Depth to bedrock Slope	0.41 0.20 0.04	Somewhat limited Slow water movement Depth to bedrock Slope	0.31 0.20 0.04
Beartrap-----	30	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04
Rock outcrop-----	25	Not rated		Not rated	
67: McCarey-----	40	Somewhat limited Depth to bedrock Slow water movement Slope Droughty	0.65 0.41 0.04 0.03	Somewhat limited Depth to bedrock Slow water movement Slope Droughty	0.65 0.31 0.04 0.03
Molyneux-----	25	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31
Lava flows-----	20	Not rated		Not rated	



Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
68: McCarey-----	55	Somewhat limited Slow water movement Depth to bedrock	0.41 0.20	Somewhat limited Slow water movement Depth to bedrock	0.31 0.20
Splittop-----	20	Somewhat limited Depth to bedrock Droughty	0.46 0.02	Somewhat limited Depth to bedrock Droughty	0.46 0.02
Lava flows-----	15	Not rated		Not rated	
69: McCarey-----	45	Somewhat limited Slow water movement Depth to bedrock Slope	0.41 0.20 0.04	Somewhat limited Slow water movement Depth to bedrock Slope	0.31 0.20 0.04
Vickton-----	20	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31
Lava flows-----	15	Not rated		Not rated	
70: McClenden-----	55	Somewhat limited Sodium content Salinity Filtering capacity	0.18 0.01 0.01	Somewhat limited Sodium content Filtering capacity	0.18 0.01
Thornock-----	20	Very limited Droughty Depth to bedrock Large stones on the surface Slow water movement Runoff	1.00 1.00 1.00 0.41 0.40	Very limited Droughty Depth to bedrock Large stones on the surface Slow water movement Sodium content	1.00 1.00 1.00 0.31 0.08
71: Medicine-----	60	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	1.00 0.84 0.14	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	1.00 0.84 0.14
Whiteknob-----	25	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	1.00 1.00 0.75	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	1.00 1.00 0.75

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
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Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
72: Menan-----	85	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31
73: Mogg-----	45	Very limited Slope Droughty Depth to bedrock Large stones on the surface Runoff	1.00 1.00 1.00 1.00 0.40	Very limited Droughty Slope Depth to bedrock Large stones on the surface	1.00 1.00 1.00 1.00
Shagel-----	30	Very limited Slope Droughty Depth to bedrock Large stones on the surface Runoff	1.00 1.00 1.00 1.00 0.40	Very limited Droughty Slope Depth to bedrock Large stones on the surface Filtering capacity	1.00 1.00 1.00 1.00 0.01
74: Mooretown-----	50	Very limited Filtering capacity Depth to saturated zone Flooding Runoff	1.00 0.95 0.60 0.40	Very limited Filtering capacity Flooding Depth to saturated zone	1.00 1.00 0.95
Borah-----	40	Very limited Filtering capacity Depth to saturated zone Droughty Strongly contrasting textural stratification Flooding	1.00 1.00 1.00 1.00 0.60	Very limited Droughty Filtering capacity Depth to saturated zone Flooding Strongly contrasting textural stratification	1.00 1.00 1.00 1.00 1.00
75: Mooretown, drained--	50	Very limited Filtering capacity Flooding	1.00 0.60	Very limited Filtering capacity Flooding	1.00 1.00
Borco-----	30	Very limited Filtering capacity Droughty Strongly contrasting textural stratification Leaching	1.00 1.00 1.00 0.45	Very limited Droughty Filtering capacity Strongly contrasting textural stratification	1.00 1.00 1.00

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
76: Nargon-----	35	Somewhat limited Depth to bedrock Droughty Slow water movement Slope	0.97 0.65 0.41 0.37	Somewhat limited Depth to bedrock Droughty Slope Slow water movement	0.97 0.65 0.37 0.31
Atom-----	30	Very limited Sodium content Salinity Slow water movement Slope	1.00 0.78 0.41 0.37	Very limited Sodium content Slope Slow water movement	1.00 0.37 0.31
Techicknot-----	25	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31
77: Nargon-----	50	Somewhat limited Depth to bedrock Droughty Slow water movement Slope	0.99 0.85 0.41 0.37	Somewhat limited Depth to bedrock Droughty Slope Slow water movement	0.99 0.85 0.37 0.31
Deuce-----	20	Very limited Depth to bedrock Droughty Runoff Slope Large stones on the surface	1.00 1.00 0.40 0.37 0.32	Very limited Depth to bedrock Droughty Slope Large stones on the surface	1.00 1.00 0.37 0.32
Lava flows-----	10	Not rated		Not rated	
78: Nitchly-----	75	Very limited Slope Slow water movement	1.00 0.41	Very limited Slope Slow water movement	1.00 0.31
79: Nurkey-----	50	Very limited Slope Slow water movement	1.00 0.41	Very limited Slope Slow water movement	1.00 0.31
Dacont-----	30	Very limited Slope Sodium content Filtering capacity	1.00 0.02 0.01	Very limited Slope Sodium content Filtering capacity	1.00 0.02 0.01

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
80: Nurkey-----	50	Very limited Slope Slow water movement	1.00 0.41	Very limited Slope Slow water movement	1.00 0.31
Dacont-----	35	Very limited Slope Sodium content Filtering capacity	1.00 0.02 0.01	Very limited Slope Sodium content Filtering capacity	1.00 0.02 0.01
81: Nurkey-----	80	Very limited Slope Slow water movement	1.00 0.41	Very limited Slope Slow water movement	1.00 0.31
Nurkey, low precipitation-----	20	Very limited Slope Slow water movement	1.00 0.41	Very limited Slope Slow water movement	1.00 0.31
82: Calcids-----	50	Very limited Slope Droughty Cobble content	1.00 0.76 0.24	Very limited Slope Droughty Cobble content	1.00 0.76 0.24
Rubble land-----	20	Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated	
83: Packmo-----	50	Very limited Filtering capacity Droughty Slope	0.99 0.83 0.16	Very limited Filtering capacity Droughty Slope	0.99 0.83 0.16
Snowslide-----	40	Somewhat limited Droughty Sodium content Slope Salinity	0.99 0.50 0.16 0.06	Somewhat limited Droughty Sodium content Slope	0.99 0.50 0.16
84: Paint-----	45	Very limited Depth to cemented pan Droughty Depth to bedrock Sodium content Runoff	1.00 1.00 1.00 0.82 0.40	Very limited Droughty Depth to cemented pan Depth to bedrock Sodium content Slope	1.00 1.00 1.00 0.82 0.01

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
84: Fallert-----	40	Somewhat limited Droughty Strongly contrasting textural stratification Salinity Filtering capacity Slope	 0.99 0.71   0.01 0.01 0.01	Somewhat limited Droughty Strongly contrasting textural stratification Filtering capacity Slope	 0.99 0.71   0.01 0.01 0.01
85: Paint-----	65	Very limited Depth to cemented pan Droughty Depth to bedrock Sodium content Runoff	 1.00 1.00 1.00 0.82 0.40	Very limited Droughty Depth to cemented pan Depth to bedrock Sodium content	 1.00 1.00 1.00 0.82
Whitecloud-----	20	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	 1.00 1.00   0.94	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	 1.00 1.00   0.94
86: Pancheri-----	80	Somewhat limited Sodium content Salinity	 0.32 0.01	Somewhat limited Sodium content	 0.32
87: Pancheri-----	45	Somewhat limited Sodium content Salinity	 0.32 0.01	Somewhat limited Sodium content	 0.32
Polatis-----	30	Somewhat limited Depth to bedrock	 0.01	Somewhat limited Depth to bedrock	 0.01
88: Playas-----	100	Not rated		Not rated	
89: Polatis-----	90	Somewhat limited Depth to bedrock	 0.16	Somewhat limited Depth to bedrock	 0.16
90: Portino-----	55	Somewhat limited Depth to bedrock Sodium content Droughty	 0.54 0.08 0.01	Somewhat limited Depth to bedrock Sodium content Droughty	 0.54 0.08 0.01

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
90: Thornock-----	30	Very limited Droughty Depth to bedrock Large stones on the surface Slow water movement Runoff	 1.00 1.00 1.00  0.41 0.40	Very limited Droughty Depth to bedrock Large stones on the surface Slow water movement Sodium content	 1.00 1.00 1.00  0.31 0.08
91: Riverlost-----	45	Very limited Slow water movement Slope Cobble content Filtering capacity	 1.00  1.00 0.59 0.01	Very limited Slow water movement Slope Cobble content Filtering capacity	 1.00  1.00 0.59 0.01
Frymire-----	40	Very limited Slope Slow water movement Cobble content Large stones on the surface	 1.00 1.00  0.59 0.32	Very limited Slope Slow water movement Cobble content Large stones on the surface	 1.00 1.00  0.59 0.32
92: Riverlost-----	60	Very limited Slow water movement Slope Cobble content Filtering capacity	 1.00  1.00 0.59 0.01	Very limited Slow water movement Slope Cobble content Filtering capacity	 1.00  1.00 0.59 0.01
Grouseville-----	20	Very limited Slope Slow water movement	 1.00 1.00	Very limited Slope Slow water movement	 1.00 1.00
93: Riverlost-----	55	Very limited Slow water movement Slope Cobble content Filtering capacity	 1.00  1.00 0.59 0.01	Very limited Slow water movement Slope Cobble content Filtering capacity	 1.00  1.00 0.59 0.01
Soen-----	30	Very limited Slow water movement Slope	 1.00  1.00	Very limited Slow water movement Slope	 1.00  1.00
94: Rubble land-----	40	Not rated		Not rated	

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
94: Milligan-----	35	Very limited Slope Filtering capacity Cobble content Droughty Depth to bedrock	1.00 1.00 1.00 1.00 1.00 0.01	Very limited Filtering capacity Cobble content Slope Droughty Depth to bedrock	1.00 1.00 1.00 1.00 1.00 0.01
95: Sanfelipe-----	85	Somewhat limited Droughty	0.26	Somewhat limited Droughty	0.26
96: Sanfelipe-----	90	Somewhat limited Droughty Slope	0.26 0.16	Somewhat limited Droughty Slope	0.26 0.16
97: Sanfelipe-----	65	Somewhat limited Droughty Filtering capacity	0.06 0.01	Somewhat limited Droughty Filtering capacity	0.06 0.01
McCaleb-----	25	Somewhat limited Sodium content Salinity	0.82 0.01	Somewhat limited Sodium content	0.82
98: Sanfelipe-----	70	Somewhat limited Droughty	0.26	Somewhat limited Droughty	0.26
Simeroi-----	20	Somewhat limited Droughty	0.50	Somewhat limited Droughty	0.50
99: Simeroi-----	85	Somewhat limited Droughty	0.50	Somewhat limited Droughty	0.50
100: Simeroi-----	75	Somewhat limited Droughty Slope	0.50 0.04	Somewhat limited Droughty Slope	0.50 0.04
101: Simeroi-----	85	Somewhat limited Droughty Slope	0.50 0.16	Somewhat limited Droughty Slope	0.50 0.16
102: Simeroi, cool-----	85	Somewhat limited Slope Droughty	0.96 0.50	Somewhat limited Slope Droughty	0.96 0.50
103: Simeroi, dry-----	80	Very limited Slope Droughty	1.00 0.50	Very limited Slope Droughty	1.00 0.50



Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
104: Simeroi-----	60	Somewhat limited Droughty	0.50	Somewhat limited Droughty	0.50
Paint-----	25	Very limited Depth to cemented pan Droughty Depth to bedrock Sodium content Runoff	1.00 1.00 1.00 0.82 0.40	Very limited Droughty Depth to cemented pan Depth to bedrock Sodium content	1.00 1.00 1.00 0.82
105: Simeroi, dry-----	50	Very limited Slope Droughty	1.00 0.50	Very limited Slope Droughty	1.00 0.50
Simeroi-----	30	Very limited Slope Droughty	1.00 0.50	Very limited Slope Droughty	1.00 0.50
106: Simeroi-----	60	Somewhat limited Droughty Slope	0.50 0.01	Somewhat limited Droughty Slope	0.50 0.01
Sparmo-----	25	Somewhat limited Sodium content Filtering capacity Slope	0.08 0.01 0.01	Somewhat limited Sodium content Filtering capacity Slope	0.08 0.01 0.01
107: Simeroi-----	40	Somewhat limited Droughty	0.50	Somewhat limited Droughty	0.50
Slide-----	35	Somewhat limited Droughty	0.49	Somewhat limited Droughty	0.49
McCaleb-----	15	Somewhat limited Sodium content Salinity	0.82 0.01	Somewhat limited Sodium content	0.82
108: Simeroi-----	40	Very limited Slope Droughty	1.00 0.50	Very limited Slope Droughty	1.00 0.50
Bealand-----	40	Very limited Slope	1.00	Very limited Slope	1.00
109: Slide-----	80	Very limited Filtering capacity Droughty	0.99 0.83	Very limited Filtering capacity Droughty	0.99 0.83

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
110: Snowslide-----	80	Somewhat limited Droughty Salinity Sodium content	 0.99 0.78 0.50	Somewhat limited Droughty Sodium content	 0.99 0.50
111: Snowslide-----	85	Somewhat limited Droughty Slope Salinity Sodium content	 0.98 0.84 0.78 0.50	Somewhat limited Droughty Slope Sodium content	 0.98 0.84 0.50
112: Snowslide-----	80	Very limited Droughty Salinity Sodium content	 1.00 0.78 0.50	Very limited Droughty Sodium content	 1.00 0.50
Zer-----	15	Very limited Filtering capacity Droughty	 0.99 0.48	Very limited Filtering capacity Droughty	 0.99 0.48
113: Snowslide-----	35	Very limited Droughty Slope Salinity Sodium content	 1.00 1.00 0.78 0.50	Very limited Droughty Slope Sodium content	 1.00 1.00 0.50
Zer-----	30	Very limited Slope Filtering capacity Droughty	 1.00 0.99 0.48	Very limited Slope Filtering capacity Droughty	 1.00 0.99 0.48
Snowslide, low precipitation-----	20	Very limited Droughty Slope Salinity Sodium content	 1.00 1.00 0.78 0.50	Very limited Droughty Slope Sodium content	 1.00 1.00 0.50
114: Soen-----	80	Very limited Slow water movement	 1.00	Very limited Slow water movement	 1.00
115: Soen-----	70	Very limited Slow water movement Slope	 1.00 0.01	Very limited Slow water movement Slope	 1.00 0.01
Justesen-----	25	Somewhat limited Slow water movement Slope	 0.41 0.01	Somewhat limited Slow water movement Slope	 0.31 0.01

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
116: Sparmo-----	75	Somewhat limited Sodium content Filtering capacity	0.08 0.01	Somewhat limited Sodium content Filtering capacity	0.08 0.01
117: Sparmo-----	50	Somewhat limited Sodium content Filtering capacity	0.08 0.01	Somewhat limited Sodium content Filtering capacity	0.08 0.01
Bluedome-----	35	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Sodium content	0.95 0.95 0.90 0.02	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Sodium content	0.95 0.95 0.90 0.02
118: Sparmo-----	45	Somewhat limited Sodium content Filtering capacity	0.08 0.01	Somewhat limited Sodium content Filtering capacity	0.08 0.01
Zer-----	45	Very limited Filtering capacity Droughty Strongly contrasting textural stratification	0.99 0.86 0.84	Very limited Filtering capacity Droughty Strongly contrasting textural stratification	0.99 0.86 0.84
119: Splittop-----	50	Somewhat limited Droughty Depth to bedrock	0.92 0.29	Somewhat limited Droughty Depth to bedrock	0.92 0.29
Atomic-----	30	Not limited		Not limited	
120: Splittop-----	50	Somewhat limited Droughty Depth to bedrock	0.92 0.29	Somewhat limited Droughty Depth to bedrock	0.92 0.29
Coffee-----	30	Very limited Sodium content Salinity Droughty	1.00 0.78 0.10	Very limited Sodium content Salinity Droughty	1.00 0.50 0.10
121: Stan-----	95	Very limited Filtering capacity	0.99	Very limited Filtering capacity	0.99

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
122: Stan-----	55	Very limited Filtering capacity	0.99	Very limited Filtering capacity	0.99
Breitenbach-----	30	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Strongly contrasting textural stratification	0.15	Strongly contrasting textural stratification	0.15
		Droughty	0.04	Droughty	0.04
123: Stan, loamy fine sand surface-----	70	Very limited Filtering capacity	0.99	Very limited Filtering capacity	0.99
Stan-----	25	Very limited Filtering capacity	0.99	Very limited Filtering capacity	0.99
124: Starlite-----	80	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31
		Filtering capacity	0.01	Filtering capacity	0.01
125: Techick-----	50	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Slow water movement	0.41	Slow water movement	0.31
Soelberg-----	45	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Strongly contrasting textural stratification	0.46	Strongly contrasting textural stratification	0.46
		Slow water movement	0.41	Slow water movement	0.31
126: Techick-----	40	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Slow water movement	0.41	Slow water movement	0.31

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
126: Soelberg-----	35	Very limited Filtering capacity Slow water movement Strongly contrasting textural stratification	1.00 0.41 0.06	Very limited Filtering capacity Slow water movement Strongly contrasting textural stratification	1.00 0.31 0.06
Lesbut-----	15	Very limited Filtering capacity Strongly contrasting textural stratification Droughty Leaching	1.00 1.00 0.90 0.45	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	1.00 1.00 0.90
127: Techicknot-----	45	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31
Atom-----	25	Very limited Sodium content Salinity Slow water movement	1.00 0.78 0.41	Very limited Sodium content Slow water movement	1.00 0.31
Nargon-----	20	Somewhat limited Depth to bedrock Droughty Slow water movement	0.97 0.74 0.41	Somewhat limited Depth to bedrock Droughty Slow water movement	0.97 0.74 0.31
128: Tenno-----	50	Very limited Depth to bedrock Droughty Runoff Large stones on the surface	1.00 0.99 0.40 0.08	Very limited Depth to bedrock Droughty Large stones on the surface	1.00 0.99 0.08
Splittop-----	25	Somewhat limited Depth to bedrock Droughty	0.16 0.11	Somewhat limited Depth to bedrock Droughty	0.16 0.11
Lava flows-----	15	Not rated		Not rated	
129: Tenno-----	45	Very limited Depth to bedrock Droughty Runoff Large stones on the surface	1.00 0.99 0.40 0.08	Very limited Depth to bedrock Droughty Large stones on the surface	1.00 0.99 0.08

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
129: Splittop-----	25	Somewhat limited Depth to bedrock Droughty	0.46 0.31	Somewhat limited Depth to bedrock Droughty	0.46 0.31
McCarey-----	20	Somewhat limited Depth to bedrock Droughty Slow water movement	0.99 0.81 0.41	Somewhat limited Depth to bedrock Droughty Slow water movement	0.99 0.81 0.31
130: Thornock-----	45	Very limited Droughty Depth to bedrock Large stones on the surface Slow water movement Runoff	1.00 1.00 1.00 0.41 0.40	Very limited Droughty Depth to bedrock Large stones on the surface Slow water movement Sodium content	1.00 1.00 1.00 0.31 0.08
Portino-----	35	Somewhat limited Depth to bedrock Sodium content Droughty	0.54 0.08 0.06	Somewhat limited Depth to bedrock Sodium content Droughty	0.54 0.08 0.06
131: Thornock-----	50	Very limited Droughty Depth to bedrock Large stones on the surface Slow water movement Runoff	1.00 1.00 1.00 0.41 0.40	Very limited Droughty Depth to bedrock Large stones on the surface Slow water movement Slope	1.00 1.00 1.00 0.31 0.16
Portino-----	25	Somewhat limited Depth to bedrock Slope Droughty Sodium content	0.54 0.16 0.09 0.08	Somewhat limited Depth to bedrock Slope Droughty Sodium content	0.54 0.16 0.09 0.08
132: Thosand-----	50	Very limited Filtering capacity Depth to saturated zone Ponding Flooding Runoff	1.00 1.00 1.00 0.60 0.40	Very limited Filtering capacity Depth to saturated zone Flooding Ponding Salinity	1.00 1.00 1.00 1.00 0.50

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
132: Sancrane-----	25	Very limited Filtering capacity Depth to saturated zone Ponding Too acid Runoff	1.00 1.00 1.00 0.50 0.40	Very limited Filtering capacity Depth to saturated zone Ponding Too acid Strongly contrasting textural stratification	1.00 1.00 1.00 0.99 0.35
133: Truesdale-----	45	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Filtering capacity	0.99 0.99 0.98 0.01	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Filtering capacity	0.99 0.99 0.98 0.01
Minidoka-----	40	Somewhat limited Depth to bedrock Depth to cemented pan Droughty	0.54 0.54 0.01	Somewhat limited Depth to bedrock Depth to cemented pan Droughty	0.54 0.54 0.01
134: Vitale-----	45	Very limited Droughty Cobble content Slope Slow water movement Depth to bedrock	1.00 1.00 1.00 0.41 0.20	Very limited Droughty Cobble content Slope Slow water movement Depth to bedrock	1.00 1.00 1.00 0.31 0.20
Blackspar-----	35	Very limited Droughty Depth to bedrock Slope Cobble content Runoff	1.00 1.00 1.00 1.00 0.40	Very limited Droughty Depth to bedrock Slope Cobble content	1.00 1.00 1.00 1.00
135: Whitecloud-----	75	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	1.00 0.99 0.86	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	1.00 0.99 0.86

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
136: Whitecloud-----	55	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	1.00 0.97 0.81	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	1.00 0.97 0.81
Sanfelipe-----	25	Somewhat limited Droughty	0.36	Somewhat limited Droughty	0.36
137: Zeale-----	70	Somewhat limited Droughty Slope	0.60 0.37	Somewhat limited Droughty Slope	0.60 0.37
Zeale, high precipitation-----	25	Somewhat limited Droughty Slope	0.40 0.37	Somewhat limited Droughty Slope	0.40 0.37
138: Zeale-----	70	Very limited Slope Droughty	1.00 0.60	Very limited Slope Droughty	1.00 0.60
Zeale, high precipitation-----	25	Very limited Slope Droughty	1.00 0.40	Very limited Slope Droughty	1.00 0.40
139: Zeale-----	35	Very limited Slope Droughty	1.00 0.37	Very limited Slope Droughty	1.00 0.37
Coalkiln-----	25	Very limited Slope Filtering capacity Too acid Droughty Sodium content	1.00 0.99 0.50 0.05 0.02	Very limited Slope Filtering capacity Too acid Droughty Sodium content	1.00 0.99 0.99 0.05 0.02
Jimbee-----	25	Very limited Slope Droughty Depth to bedrock Runoff	1.00 1.00 1.00 0.40	Very limited Droughty Slope Depth to bedrock	1.00 1.00 1.00
140: Zeebar, cool-----	55	Very limited Slope Slow water movement Droughty	1.00 0.41 0.04	Very limited Slope Slow water movement Droughty	1.00 0.31 0.04



Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
140: Zeebar-----	30	Very limited Slope Slow water movement Droughty	1.00 0.41 0.23	Very limited Slope Slow water movement Droughty	1.00 0.31 0.23
141: Zeebar-----	40	Very limited Slope Droughty Slow water movement	1.00 0.78 0.41	Very limited Slope Droughty Slow water movement	1.00 0.78 0.31
Parvis-----	25	Very limited Slope Slow water movement Droughty	1.00 0.41 0.06	Very limited Slope Slow water movement Droughty	1.00 0.31 0.06
Howcan-----	20	Very limited Slope Droughty Large stones on the surface Filtering capacity	1.00 0.63 0.02 0.01	Very limited Slope Droughty Large stones on the surface Filtering capacity	1.00 0.63 0.02 0.01
142: Zer-----	85	Somewhat limited Droughty Filtering capacity	0.02 0.01	Somewhat limited Droughty Filtering capacity	0.02 0.01
143: Zer-----	85	Very limited Strongly contrasting textural stratification Droughty Filtering capacity Slope	0.99 0.63 0.01 0.01	Very limited Strongly contrasting textural stratification Droughty Filtering capacity Slope	0.99 0.63 0.01 0.01
144: Zer-----	95	Very limited Filtering capacity Droughty Slope Strongly contrasting textural stratification Cobble content	0.99 0.87 0.63 0.03 0.02	Very limited Filtering capacity Droughty Slope Strongly contrasting textural stratification Cobble content	0.99 0.87 0.63 0.03 0.02

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
145: Zer-----	80	Very limited Slope Filtering capacity Droughty Strongly contrasting textural stratification	1.00 0.99 0.98 0.79	Very limited Slope Filtering capacity Droughty Strongly contrasting textural stratification	1.00 0.99 0.98 0.79
146: Zer-----	45	Somewhat limited Droughty Slope Filtering capacity	0.36 0.16 0.01	Somewhat limited Droughty Slope Filtering capacity	0.36 0.16 0.01
Snowslide-----	40	Somewhat limited Sodium content Droughty Slope Salinity	0.50 0.48 0.16 0.06	Somewhat limited Sodium content Droughty Slope	0.50 0.48 0.16
147: Zer-----	65	Very limited Filtering capacity Droughty Strongly contrasting textural stratification	0.99 0.62 0.20	Very limited Filtering capacity Droughty Strongly contrasting textural stratification	0.99 0.62 0.20
Whiteknob-----	25	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	1.00 1.00 0.95	Very limited Filtering capacity Strongly contrasting textural stratification Droughty	1.00 1.00 0.95
148: Mooretown-----	45	Very limited Filtering capacity Depth to saturated zone Flooding Runoff	1.00 0.95 0.60 0.40	Very limited Filtering capacity Flooding Depth to saturated zone	1.00 1.00 0.95
Blackfoot-----	25	Somewhat limited Depth to saturated zone	0.95	Somewhat limited Depth to saturated zone	0.95

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge--  
Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
148: Borah-----	20	Very limited Filtering capacity Depth to saturated zone Strongly contrasting textural stratification Droughty Flooding	1.00 1.00 1.00 1.00 1.00 0.60	Very limited Filtering capacity Depth to saturated zone Flooding Strongly contrasting textural stratification Droughty	1.00 1.00 1.00 1.00 1.00 1.00
149: Drage, cool-----	85	Somewhat limited Slow water movement Droughty Slope	0.41 0.37 0.04	Somewhat limited Droughty Slow water movement Slope	0.37 0.31 0.04
150: Vitale-----	45	Very limited Slope Droughty Cobble content Depth to bedrock Slow water movement	1.00 1.00 1.00 0.95 0.41	Very limited Droughty Slope Cobble content Depth to bedrock Slow water movement	1.00 1.00 1.00 0.95 0.31
Blackspar-----	35	Very limited Slope Droughty Depth to bedrock Cobble content Runoff	1.00 1.00 1.00 1.00 0.40	Very limited Droughty Slope Depth to bedrock Cobble content	1.00 1.00 1.00 1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1: Arco-----	85	Somewhat limited Depth to saturated zone Flooding Slow water movement	0.65  0.60 0.31	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 0.65
2: Atom-----	80	Very limited Sodium content Slow water movement	1.00 0.31	Very limited Sodium content Seepage	1.00 1.00
3: Atom-----	85	Very limited Sodium content Too steep for surface application Slow water movement	1.00 0.68  0.31	Very limited Sodium content Seepage	1.00 1.00
4: Atom-----	50	Very limited Sodium content Slow water movement	1.00 0.31	Very limited Sodium content Seepage	1.00 1.00
Splittop-----	40	Somewhat limited Depth to bedrock Droughty	0.16 0.11	Very limited Seepage Depth to bedrock	1.00 1.00
5: Bealand-----	60	Very limited Too steep for surface application Too steep for sprinkler application	1.00  1.00	Very limited Too steep for surface application Seepage	1.00 1.00
Zeale-----	25	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00  1.00 0.32	Very limited Seepage Too steep for surface application	1.00 1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
6: Blackfoot-----	85	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.31	Very limited Seepage Depth to saturated zone	1.00 0.99
7: Bluedome-----	80	Somewhat limited Too steep for surface application Depth to bedrock Depth to cemented pan Droughty Sodium content	0.08 0.06 0.06 0.05 0.02	Very limited Depth to cemented pan Seepage Depth to bedrock Sodium content	1.00 1.00 1.00 0.02
8: Bluedome-----	50	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Too steep for surface application Sodium content	0.65 0.64 0.51 0.08 0.02	Very limited Depth to cemented pan Seepage Depth to bedrock Sodium content	1.00 1.00 1.00 0.02
McCaleb-----	30	Somewhat limited Too steep for surface application Sodium content	0.08 0.08	Very limited Seepage Sodium content	1.00 0.08
9: Bockston-----	80	Somewhat limited Filtering capacity	0.01	Very limited Seepage	1.00
10: Breitenbach-----	80	Very limited Filtering capacity Droughty	1.00 0.27	Very limited Seepage	1.00
11: Breitenbach-----	65	Very limited Filtering capacity Droughty	1.00 0.22	Very limited Seepage	1.00
Stan-----	25	Very limited Filtering capacity Droughty	1.00 0.64	Very limited Seepage	1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
12: Buist-----	90	Somewhat limited Too steep for surface application Droughty Too steep for sprinkler application Filtering capacity	0.92  0.29 0.02  0.01	Very limited Seepage Too steep for surface application	1.00 0.06
13: Bunting-----	95	Very limited Filtering capacity Droughty	1.00  0.91	Very limited Seepage	1.00
14: Coffee-----	80	Very limited Sodium content Salinity Droughty	1.00 0.50 0.10	Very limited Sodium content Seepage Depth to bedrock	1.00 1.00 0.61
15: Coffee-----	45	Very limited Sodium content Too steep for surface application Too steep for sprinkler application Salinity Droughty	1.00 1.00  0.78  0.50 0.10	Very limited Sodium content Seepage Too steep for surface application Depth to bedrock	1.00 1.00 1.00  0.61
Nargon-----	30	Very limited Too steep for surface application Depth to bedrock Too steep for sprinkler application Droughty Slow water movement	1.00  0.97 0.78  0.62 0.31	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 1.00
16: Coffee-----	30	Very limited Sodium content Too steep for surface application Salinity Droughty Too steep for sprinkler application	1.00 0.92  0.50 0.10 0.02	Very limited Sodium content Seepage Depth to bedrock Too steep for surface application	1.00 1.00 0.61 0.06

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
16: Nargon-----	30	Somewhat limited Depth to bedrock Too steep for surface application Droughty Slow water movement Too steep for sprinkler application	0.97 0.92  0.62 0.31  0.02	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 0.06
Atom-----	15	Very limited Sodium content Too steep for surface application Slow water movement Too steep for sprinkler application	1.00 0.92  0.31 0.02	Very limited Sodium content Seepage Too steep for surface application	1.00 1.00 0.06
17: Cronks-----	40	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Cobble content	1.00  1.00  1.00 0.02	Very limited Too steep for surface application Seepage Cobble content	1.00  1.00 0.95
Dacont-----	35	Very limited Too steep for surface application Too steep for sprinkler application Droughty Sodium content Filtering capacity	1.00  1.00  0.04 0.02 0.01	Very limited Too steep for surface application Seepage Sodium content	1.00  1.00 0.02
18: Crooked Creek-----	85	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.69

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
19: Cryoborolls-----	50	Very limited Too steep for surface application Too steep for sprinkler application Cobble content Droughty	1.00  1.00  0.95 0.62	Very limited Too steep for surface application Seepage Cobble content	1.00  1.00 1.00
Rubble land-----	20	Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated	
20: Darlington-----	60	Very limited Filtering capacity Droughty	1.00  0.41	Very limited Seepage	1.00
Lesbut-----	35	Very limited Filtering capacity Droughty	1.00  0.90	Very limited Seepage	1.00
21: Denied access-----	100	Not rated		Not rated	
22: Deuce-----	45	Very limited Depth to bedrock Droughty Too steep for surface application Large stones on the surface Too steep for sprinkler application	1.00 1.00 0.92  0.32  0.02	Very limited Depth to bedrock Seepage Too steep for surface application	1.00 1.00 0.06
Nargon-----	20	Somewhat limited Depth to bedrock Too steep for surface application Droughty Slow water movement Too steep for sprinkler application	0.97 0.92  0.65 0.31  0.02	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 0.06
Lava flows-----	15	Not rated		Not rated	



## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
23: Deuce-----	35	Very limited Too steep for surface application Depth to bedrock Droughty Too steep for sprinkler application Large stones on the surface	1.00  1.00 1.00 1.00  0.32	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00  1.00
Nargon-----	20	Very limited Too steep for surface application Too steep for sprinkler application Depth to bedrock Droughty Slow water movement	1.00  1.00  0.99 0.85 0.31	Very limited Too steep for surface application Seepage Depth to bedrock Stone content	1.00  1.00 1.00 0.02
Lava flows-----	20	Not rated		Not rated	
24: Dickeypeak-----	50	Very limited Salinity Sodium content Depth to saturated zone Filtering capacity	1.00 1.00 0.84 0.01	Very limited Sodium content Seepage Depth to saturated zone Salinity	1.00 1.00 0.84 0.50
Bigrant-----	40	Very limited Depth to saturated zone Flooding Salinity Sodium content Slow water movement	1.00  0.60 0.50 0.50 0.31	Very limited Flooding Depth to saturated zone Seepage Sodium content	1.00 1.00  1.00 0.50
25: Donkehill-----	85	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00  1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00  1.00
26: Dredge-----	80	Not limited		Very limited Seepage	1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
27: Elbow-----	80	Very limited Droughty Depth to bedrock Depth to cemented pan Filtering capacity	1.00 0.95 0.95 0.01	Very limited Depth to bedrock Depth to cemented pan Seepage	1.00 1.00 1.00
28: Fallert-----	80	Very limited Droughty Too steep for surface application Filtering capacity	1.00 0.32 0.01	Very limited Seepage	1.00
29: Fallert, dry-----	80	Somewhat limited Droughty Too steep for surface application Filtering capacity	0.99 0.08 0.01	Very limited Seepage	1.00
30: Fandow-----	80	Very limited Droughty Depth to bedrock Depth to cemented pan Too steep for surface application	1.00 1.00 1.00 0.08	Very limited Depth to bedrock Depth to cemented pan Seepage	1.00 1.00 1.00
31: Fulwider, high precipitation-----	40	Very limited Droughty Depth to cemented pan Depth to bedrock Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00 1.00 0.98	Very limited Depth to bedrock Depth to cemented pan Seepage Too steep for surface application Sodium content	1.00 1.00 1.00 1.00 0.32

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31: Fulwider, low precipitation-----	30	Very limited Droughty Depth to cemented pan Depth to bedrock Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00 1.00 0.98	Very limited Depth to bedrock Depth to cemented pan Seepage Too steep for surface application Cobble content	1.00 1.00 1.00 1.00 0.33
Fulwider-----	15	Very limited Droughty Depth to cemented pan Depth to bedrock Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00 1.00 0.98	Very limited Depth to bedrock Depth to cemented pan Seepage Too steep for surface application Sodium content	1.00 1.00 1.00 1.00 0.32
32: Goosebury, high precipitation-----	90	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 0.90 0.89	Very limited Seepage Too steep for surface application	1.00 1.00
33: Goosebury-----	80	Very limited Filtering capacity Droughty Too steep for surface application	1.00 0.89 0.32	Very limited Seepage	1.00
34: Goosebury, low precipitation-----	45	Very limited Too steep for surface application Too steep for sprinkler application Droughty Filtering capacity	1.00 1.00 1.00 0.68 0.01	Very limited Seepage Too steep for surface application Cobble content	1.00 1.00 0.11

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
34: Goosebury, high precipitation-----	35	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 1.00 0.52	Very limited Seepage Too steep for surface application	1.00 1.00
35: Hagenbarth-----	30	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 0.31	Very limited Too steep for surface application Seepage	1.00 0.69
Howcan-----	25	Very limited Too steep for surface application Too steep for sprinkler application Droughty Large stones on the surface Filtering capacity	1.00 1.00 0.63 0.02 0.01	Very limited Seepage Too steep for surface application Stone content Cobble content Depth to bedrock	1.00 1.00 1.00 0.96 0.14
Jonda-----	20	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity Droughty Slow water movement	1.00 1.00 0.99 0.87 0.31	Very limited Seepage Cobble content Too steep for surface application	1.00 1.00 1.00
36: Hal-----	60	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity	1.00 1.00 0.99	Very limited Too steep for surface application Seepage	1.00 1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
36: Moonville-----	25	Very limited Too steep for surface application Too steep for sprinkler application	1.00  1.00	Very limited Too steep for surface application Seepage	1.00  1.00
37: Hondoho-----	85	Very limited Too steep for surface application Too steep for sprinkler application Cobble content	1.00  1.00  0.02	Very limited Seepage Too steep for surface application Stone content Cobble content	1.00 1.00  0.45 0.01
38: Howcan-----	50	Very limited Too steep for surface application Too steep for sprinkler application Droughty Large stones on the surface Filtering capacity	1.00  1.00  0.63 0.02  0.01	Very limited Seepage Too steep for surface application Stone content Cobble content Depth to bedrock	1.00 1.00  1.00 0.96 0.14
Hutchley-----	35	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Slow water movement	1.00 1.00  1.00 1.00 0.31	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00  1.00
Rock outcrop-----	10	Not rated		Not rated	
39: Howcan-----	35	Very limited Too steep for surface application Too steep for sprinkler application Droughty Large stones on the surface Filtering capacity	1.00  1.00  0.63 0.02  0.01	Very limited Seepage Too steep for surface application Stone content Cobble content Depth to bedrock	1.00 1.00  1.00 0.96 0.14

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
39: Zeebar-----	25	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Droughty	1.00  1.00  0.31 0.23	Very limited Too steep for surface application Seepage	1.00  1.00
Hutchley-----	20	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Slow water movement	1.00 1.00 1.00 1.00 0.31	Very limited Depth to bedrock Too steep for surface application Seepage	1.00 1.00 1.00
40: Huddle-----	65	Somewhat limited Too steep for surface application Too steep for sprinkler application Sodium content	0.92  0.02 0.02	Very limited Seepage Depth to bedrock Too steep for surface application Sodium content	1.00 0.42 0.06 0.02
Moonville-----	20	Somewhat limited Too steep for surface application Too steep for sprinkler application	0.92  0.02	Very limited Seepage Too steep for surface application	1.00 0.06
41: Ike-----	40	Very limited Droughty Too steep for surface application Depth to bedrock Too steep for sprinkler application	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Seepage Too steep for surface application Cobble content	1.00 1.00 1.00 0.32
Rock outcrop-----	20	Not rated		Not rated	

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
41: Jimbee-----	15	Very limited Droughty Too steep for surface application Depth to bedrock Too steep for sprinkler application	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Seepage Too steep for surface application	1.00 1.00 1.00
42: Ike-----	45	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage Cobble content	1.00 1.00 1.00 0.32
Simeroi-----	30	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 0.50	Very limited Too steep for surface application Seepage	1.00 1.00
Rock outcrop-----	10	Not rated		Not rated	
43: Inel-----	35	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage Cobble content Stone content	1.00 1.00 1.00 0.01 0.01
Matheson-----	30	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity Droughty	1.00 1.00 0.99 0.11	Very limited Seepage Too steep for surface application Depth to bedrock	1.00 1.00 0.84
Rock outcrop-----	25	Not rated		Not rated	

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
44: Inel-----	55	Very limited Droughty Too steep for surface application Depth to bedrock Too steep for sprinkler application	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Seepage Too steep for surface application	1.00 1.00 1.00
Slide-----	15	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 0.67	Very limited Seepage Too steep for surface application	1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
45: Jimbee-----	40	Very limited Droughty Too steep for surface application Depth to bedrock Too steep for sprinkler application	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Seepage Too steep for surface application	1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	
Ike-----	15	Very limited Droughty Too steep for surface application Depth to bedrock Too steep for sprinkler application	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Seepage Too steep for surface application Cobble content	1.00 1.00 1.00 0.32
46: Jimbee-----	40	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Large stones on the surface	1.00 1.00 1.00 1.00 0.32	Very limited Depth to bedrock Too steep for surface application Seepage Stone content	1.00 1.00 1.00 0.35



## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
46: Skibo-----	30	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00  1.00  0.07	Very limited Too steep for surface application Seepage Stone content	1.00  1.00 0.12
Ike-----	15	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage Cobble content	1.00 1.00 1.00 0.32
47: Justesen-----	45	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00  0.60  0.31	Very limited Seepage Too steep for surface application	1.00 0.94
Drage-----	40	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Droughty	1.00  0.90  0.31 0.05	Very limited Seepage Too steep for surface application Cobble content Stone content	1.00 1.00 0.39 0.02
48: Ketchum-----	50	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity Too acid	1.00  1.00  0.99 0.99	Very limited Seepage Too steep for surface application Too acid	1.00 1.00 0.99

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
48: Povey-----	30	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00  1.00  1.00	Very limited Too steep for surface application Seepage Cobble content Depth to bedrock Stone content	1.00  1.00 1.00 0.08 0.05
49: Kimama-----	90	Not limited		Very limited Seepage	1.00
50: Klug-----	90	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00  0.40  0.26	Very limited Seepage Too steep for surface application	1.00  0.78
51: Klug-----	60	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00  1.00  0.26	Very limited Too steep for surface application Seepage	1.00  1.00
Parvis-----	20	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Droughty	1.00  1.00  0.31 0.06	Very limited Too steep for surface application Stone content Seepage	1.00  1.00 1.00
52: Lag-----	90	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity Too acid Droughty	1.00  1.00  0.99 0.99 0.66	Very limited Seepage Too steep for surface application Too acid Stone content	1.00 1.00  0.99 0.63

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
53: Lavacreek-----	65	Very limited Too steep for surface application Too steep for sprinkler application Cobble content Filtering capacity	1.00   1.00  1.00 0.01	Very limited Too steep for surface application Seepage Cobble content	1.00   1.00 1.00
Dollarhide-----	25	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Filtering capacity	1.00 1.00  1.00 1.00 0.01	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 1.00
54: Lavacreek-----	45	Very limited Too steep for surface application Too steep for sprinkler application Cobble content Filtering capacity	1.00  1.00  1.00 0.01	Very limited Too steep for surface application Seepage Cobble content	1.00  1.00 1.00
Dollarhide-----	20	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Filtering capacity	1.00 1.00  1.00 1.00 0.01	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 1.00
Grassycone-----	20	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity Too acid	1.00  1.00  0.99 0.99	Very limited Seepage Too steep for surface application Too acid	1.00 1.00 0.99

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
55: Lavacreek-----	45	Very limited Too steep for surface application Too steep for sprinkler application Cobble content Filtering capacity	1.00  1.00  1.00 0.01	Very limited Too steep for surface application Seepage Cobble content	1.00  1.00 1.00
Vitale-----	35	Very limited Droughty Too steep for surface application Too steep for sprinkler application Cobble content Slow water movement	1.00 1.00 1.00 1.00 0.31	Very limited Seepage Too steep for surface application Depth to bedrock Cobble content	1.00 1.00 1.00 1.00
56: Lava flows-----	100	Not rated		Not rated	
57: Lava flows-----	70	Not rated		Not rated	
Cinderhurst-----	20	Very limited Droughty Depth to bedrock Cobble content Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00 1.00 0.22	Very limited Depth to bedrock Seepage Too steep for surface application Cobble content	1.00 1.00 0.50 0.42
58: Lava flows-----	60	Not rated		Not rated	
Pingree-----	35	Very limited Droughty Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Seepage	1.00 1.00
59: Leatherman-----	45	Very limited Droughty Depth to cemented pan Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 1.00 1.00	Very limited Depth to bedrock Depth to cemented pan Too steep for surface application Seepage Sodium content	1.00 1.00 1.00 1.00 0.82

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
59: Adek, dry-----	20	Very limited Too steep for surface application Too steep for sprinkler application Droughty Sodium content	1.00  0.90  0.38 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00  0.02
Adek-----	15	Very limited Too steep for surface application Too steep for sprinkler application Droughty Sodium content	1.00  1.00  0.39 0.02	Very limited Too steep for surface application Seepage Cobble content Sodium content	1.00  1.00 1.00 0.02
60: Leatherman-----	45	Very limited Droughty Depth to cemented pan Depth to bedrock Sodium content Too steep for surface application	1.00 1.00 1.00 0.82 0.32	Very limited Depth to bedrock Depth to cemented pan Seepage Sodium content	1.00 1.00  1.00 0.82
Bluedome-----	30	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Too steep for surface application Sodium content	0.97 0.97 0.96 0.32  0.02	Very limited Depth to cemented pan Seepage Depth to bedrock Sodium content	1.00  1.00 1.00 0.02
61: Malm-----	60	Somewhat limited Droughty Too steep for surface application Depth to bedrock Filtering capacity	0.40 0.32  0.01 0.01	Very limited Seepage Depth to bedrock	1.00 1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
61: Bondfarm-----	20	Very limited Droughty Depth to bedrock Too steep for surface application Cobble content Filtering capacity	1.00 1.00 0.32  0.01 0.01	Very limited Seepage Depth to bedrock	1.00 1.00
Matheson-----	15	Very limited Filtering capacity Too steep for surface application Droughty	0.99  0.32  0.11	Very limited Seepage Depth to bedrock	1.00 0.84
62: Matheson-----	70	Very limited Too steep for surface application Filtering capacity Too steep for sprinkler application Droughty	1.00  0.99  0.22  0.11	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 0.84 0.50
Grassy Butte-----	20	Very limited Too steep for surface application Filtering capacity Too steep for sprinkler application Droughty Sodium content	1.00  0.99  0.98  0.65 0.02	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02
63: McCain-----	65	Somewhat limited Depth to bedrock Slow water movement Droughty	0.65 0.31  0.25	Very limited Seepage Depth to bedrock	1.00 1.00
Thornock-----	20	Very limited Droughty Depth to bedrock Large stones on the surface Slow water movement Sodium content	1.00 1.00 1.00  0.31  0.08	Very limited Depth to bedrock Seepage Sodium content	1.00 1.00 0.08

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
64: McCarey-----	45	Somewhat limited Slow water movement Depth to bedrock Too steep for surface application	0.31 0.20 0.08	Very limited Seepage Depth to bedrock	1.00 1.00
Beartrap-----	35	Somewhat limited Too steep for surface application	0.08	Very limited Seepage Depth to bedrock	1.00 0.26
65: McCarey-----	60	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Depth to bedrock	1.00 0.90 0.31 0.20	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 1.00
Beartrap-----	25	Very limited Too steep for surface application Too steep for sprinkler application	1.00 0.90	Very limited Seepage Too steep for surface application Depth to bedrock	1.00 1.00 0.26
66: McCarey-----	40	Very limited Too steep for surface application Slow water movement Too steep for sprinkler application Depth to bedrock	1.00 0.31 0.22 0.20	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 0.50
Beartrap-----	30	Very limited Too steep for surface application Too steep for sprinkler application	1.00 0.22	Very limited Seepage Too steep for surface application Depth to bedrock	1.00 0.50 0.26
Rock outcrop-----	25	Not rated		Not rated	

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
67: McCarey-----	40	Very limited Too steep for surface application Depth to bedrock Slow water movement Too steep for sprinkler application Droughty	1.00  0.65 0.31  0.22  0.03	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 0.50
Molyneux-----	25	Somewhat limited Too steep for surface application Slow water movement	0.32  0.31	Very limited Seepage	1.00
Lava flows-----	20	Not rated		Not rated	
68: McCarey-----	55	Somewhat limited Too steep for surface application Slow water movement Depth to bedrock	0.68  0.31  0.20	Very limited Seepage Depth to bedrock	1.00 1.00
Splittop-----	20	Somewhat limited Too steep for surface application Depth to bedrock Droughty	0.68  0.46 0.02	Very limited Seepage Depth to bedrock	1.00 1.00
Lava flows-----	15	Not rated		Not rated	
69: McCarey-----	45	Very limited Too steep for surface application Slow water movement Too steep for sprinkler application Depth to bedrock	1.00  0.31  0.22  0.20	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 0.50
Vickton-----	20	Somewhat limited Too steep for surface application Slow water movement	0.68  0.31	Very limited Seepage Depth to bedrock	1.00 0.01
Lava flows-----	15	Not rated		Not rated	



## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
70: McClenden-----	55	Somewhat limited Sodium content Filtering capacity	0.18 0.01	Very limited Seepage Depth to bedrock Depth to cemented pan Sodium content	1.00 0.32 0.32 0.18
Thornock-----	20	Very limited Droughty Depth to bedrock Large stones on the surface Slow water movement Sodium content	1.00 1.00 1.00 0.31 0.08	Very limited Depth to bedrock Seepage Sodium content	1.00 1.00 1.00 0.08
71: Medicine-----	60	Very limited Filtering capacity Droughty	1.00 0.14	Very limited Seepage	1.00
Whiteknob-----	25	Very limited Filtering capacity Droughty	1.00 0.75	Very limited Seepage	1.00
72: Menan-----	85	Somewhat limited Slow water movement	0.31	Very limited Seepage	1.00
73: Mogg-----	45	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Large stones on the surface	1.00 1.00 1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage Stone content	1.00 1.00 1.00 1.00
Shagel-----	30	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Large stones on the surface	1.00 1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage Stone content	1.00 1.00 1.00 1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
74: Mooretown-----	50	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 0.95 0.60	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 0.95
Borah-----	40	Very limited Droughty Filtering capacity Depth to saturated zone Flooding	1.00 1.00 1.00 0.60	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00
75: Mooretown, drained--	50	Very limited Filtering capacity Flooding	1.00 0.60	Very limited Flooding Seepage	1.00 1.00
Borco-----	30	Very limited Droughty Filtering capacity	1.00 1.00	Very limited Seepage	1.00
76: Nargon-----	35	Very limited Too steep for surface application Depth to bedrock Droughty Too steep for sprinkler application Slow water movement	1.00 0.97 0.65 0.60 0.31	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 0.94
Atom-----	30	Very limited Sodium content Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 0.60 0.31	Very limited Sodium content Seepage Too steep for surface application	1.00 1.00 0.94
Techicknot-----	25	Somewhat limited Too steep for surface application Slow water movement	0.68 0.31	Very limited Seepage	1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
77: Nargon-----	50	Very limited Too steep for surface application Depth to bedrock Droughty Too steep for sprinkler application Slow water movement	1.00  0.99 0.85 0.60  0.31	Very limited Seepage Depth to bedrock Too steep for surface application Stone content	1.00 1.00 0.94  0.02
Deuce-----	20	Very limited Depth to bedrock Droughty Too steep for surface application Too steep for sprinkler application Large stones on the surface	1.00 1.00 1.00 0.60  0.32	Very limited Depth to bedrock Seepage Too steep for surface application	1.00 1.00 0.94
Lava flows-----	10	Not rated		Not rated	
78: Nitchly-----	75	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00  0.31	Very limited Too steep for surface application Seepage Cobble content	1.00 1.00 0.06
79: Nurkey-----	50	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00  0.31	Very limited Seepage Too steep for surface application Cobble content Stone content	1.00 1.00 0.10 0.01
Dacont-----	30	Very limited Too steep for surface application Too steep for sprinkler application Sodium content Filtering capacity	1.00 1.00 0.02 0.01	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.02

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
80: Nurkey-----	50	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00  1.00  0.31	Very limited Too steep for surface application Seepage Cobble content Stone content	1.00  1.00 0.10 0.01
Dacont-----	35	Very limited Too steep for surface application Too steep for sprinkler application Sodium content Filtering capacity	1.00  1.00  0.02 0.01	Very limited Too steep for surface application Seepage Sodium content	1.00  1.00 0.02
81: Nurkey-----	80	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00  1.00  0.31	Very limited Seepage Too steep for surface application Cobble content Stone content	1.00 1.00  0.06 0.02
Nurkey, low precipitation-----	20	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00  1.00  0.31	Very limited Seepage Too steep for surface application Cobble content Stone content	1.00 1.00  0.06 0.01
82: Calclids-----	50	Very limited Too steep for surface application Too steep for sprinkler application Droughty Cobble content	1.00  1.00  0.76 0.24	Very limited Too steep for surface application Seepage Cobble content	1.00  1.00 0.55
Rubble land-----	20	Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated	

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
83: Packmo-----	50	Very limited Too steep for surface application Filtering capacity Droughty Too steep for sprinkler application	1.00  0.99  0.83 0.40	Very limited Seepage Too steep for surface application Cobble content	1.00 0.78  0.01
Snowslide-----	40	Very limited Too steep for surface application Droughty Sodium content Too steep for sprinkler application	1.00  0.99 0.50 0.40	Very limited Seepage Too steep for surface application Sodium content	1.00 0.78  0.50
84: Paint-----	45	Very limited Droughty Depth to cemented pan Depth to bedrock Too steep for surface application Sodium content	1.00 1.00  1.00 1.00  0.82	Very limited Depth to bedrock Depth to cemented pan Seepage Sodium content Too steep for surface application	1.00 1.00  1.00 0.82 0.22
Fallert-----	40	Very limited Too steep for surface application Droughty Too steep for sprinkler application Filtering capacity	1.00  0.99 0.10  0.01	Very limited Seepage Too steep for surface application	1.00 0.22
85: Paint-----	65	Very limited Droughty Depth to cemented pan Depth to bedrock Sodium content	1.00 1.00  1.00 0.82	Very limited Depth to bedrock Depth to cemented pan Seepage Sodium content	1.00 1.00  1.00 0.82
Whitecloud-----	20	Very limited Filtering capacity Droughty	1.00  0.94	Very limited Seepage	1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
86: Pancheri-----	80	Somewhat limited Too steep for surface application Sodium content	0.32  0.32	Very limited Seepage Sodium content	1.00 0.32
87: Pancheri-----	45	Somewhat limited Too steep for surface application Sodium content Too steep for sprinkler application	0.92  0.32 0.02	Very limited Seepage Sodium content Too steep for surface application	1.00 0.32 0.06
Polatis-----	30	Somewhat limited Too steep for surface application Too steep for sprinkler application Depth to bedrock	0.92  0.02 0.01	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 0.06
88: Playas-----	100	Not rated		Not rated	
89: Polatis-----	90	Somewhat limited Depth to bedrock	0.16	Very limited Seepage Depth to bedrock	1.00 1.00
90: Portino-----	55	Somewhat limited Depth to bedrock Sodium content Droughty	0.54 0.08 0.01	Very limited Seepage Depth to bedrock Sodium content	1.00 1.00 0.08
Thornock-----	30	Very limited Droughty Depth to bedrock Large stones on the surface Slow water movement Sodium content	1.00 1.00 1.00 0.31 0.08	Very limited Depth to bedrock Seepage Sodium content	1.00 1.00 0.08

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
91: Riverlost-----	45	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application Cobble content Filtering capacity	1.00 1.00 1.00 0.59 0.01	Very limited Seepage Too steep for surface application	1.00 1.00
Frymire-----	40	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Cobble content Large stones on the surface	1.00 1.00 1.00 0.59 0.32	Very limited Too steep for surface application Cobble content Stone content Seepage	1.00 1.00 1.00 0.69
92: Riverlost-----	60	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application Cobble content Filtering capacity	1.00 1.00 1.00 0.59 0.01	Very limited Seepage Too steep for application surface	1.00 1.00
Grouseville-----	20	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 1.00	Very limited Too steep for surface application Seepage	1.00 0.69

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
93: Riverlost-----	55	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application Cobble content Filtering capacity	1.00 1.00 1.00 0.59 0.01	Very limited Seepage Too steep for surface application	1.00 1.00
Soen-----	30	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00	Very limited Too steep for surface application Seepage	1.00 0.69
94: Rubble land-----	40	Not rated		Not rated	
Milligan-----	35	Very limited Filtering capacity Cobble content Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 1.00 1.00 1.00	Very limited Seepage Too steep for surface application Stone content Depth to bedrock Cobble content	1.00 1.00 1.00 1.00 0.45
95: Sanfelipe-----	85	Somewhat limited Too steep for surface application Droughty	0.68 0.26	Very limited Seepage	1.00
96: Sanfelipe-----	90	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 0.40 0.26	Very limited Seepage Too steep for surface application	1.00 0.78



## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
97: Sanfelipe-----	65	Somewhat limited Droughty Filtering capacity	0.06 0.01	Very limited Seepage	1.00
McCaleb-----	25	Somewhat limited Sodium content	0.82	Very limited Seepage Sodium content	1.00 0.82
98: Sanfelipe-----	70	Somewhat limited Droughty	0.26	Very limited Seepage	1.00
Simeroi-----	20	Somewhat limited Droughty	0.50	Very limited Seepage	1.00
99: Simeroi-----	85	Somewhat limited Droughty Too steep for surface application	0.50 0.08	Very limited Seepage	1.00
100: Simeroi-----	75	Very limited Too steep for surface application Droughty Too steep for sprinkler application	1.00 0.50 0.22	Very limited Seepage Too steep for surface application	1.00 0.50
101: Simeroi-----	85	Very limited Too steep for surface application Droughty Too steep for sprinkler application	1.00 0.50 0.40	Very limited Seepage Too steep for surface application	1.00 0.78
102: Simeroi, cool-----	85	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 0.98 0.50	Very limited Seepage Too steep for surface application	1.00 1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
103: Simeroi, dry-----	80	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00  1.00  0.50	Very limited Seepage Too steep for surface application	1.00  1.00
104: Simeroi-----	60	Somewhat limited Droughty Too steep for surface application	0.50 0.32	Very limited Seepage	1.00
Paint-----	25	Very limited Droughty Depth to cemented pan Depth to bedrock Sodium content Too steep for surface application	1.00 1.00 1.00 0.82 0.32	Very limited Depth to bedrock Depth to cemented pan Seepage Sodium content	1.00 1.00 1.00 0.82
105: Simeroi, dry-----	50	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00  1.00  0.50	Very limited Seepage Too steep for surface application	1.00  1.00
Simeroi-----	30	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00  1.00  0.50	Very limited Seepage Too steep for surface application	1.00  1.00
106: Simeroi-----	60	Very limited Too steep for surface application Droughty Too steep for sprinkler application	1.00  0.50 0.10	Very limited Seepage Too steep for surface application	1.00 0.22

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
106: Sparmo-----	25	Very limited Too steep for surface application Too steep for sprinkler application Sodium content Filtering capacity	1.00  0.10  0.08 0.01	Very limited Seepage Too steep for surface application Sodium content	1.00 0.22  0.08
107: Simeroi-----	40	Somewhat limited Droughty Too steep for surface application	0.50 0.08	Very limited Seepage	1.00
Slide-----	35	Somewhat limited Droughty Too steep for surface application	0.49 0.08	Very limited Seepage	1.00
McCaleb-----	15	Somewhat limited Sodium content Too steep for surface application	0.82 0.08	Very limited Seepage Sodium content	1.00 0.82
108: Simeroi-----	40	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00  1.00  0.50	Very limited Too steep for surface application Seepage	1.00  1.00
Bealand-----	40	Very limited Too steep for surface application Too steep for sprinkler application	1.00  1.00	Very limited Too steep for surface application Seepage	1.00  1.00
109: Slide-----	80	Very limited Filtering capacity Droughty Too steep for surface application	0.99  0.83 0.68	Very limited Seepage	1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
110: Snowslide-----	80	Somewhat limited Droughty Too steep for surface application Sodium content	0.99 0.68   0.50	Very limited Seepage Sodium content	1.00 0.50
111: Snowslide-----	85	Very limited Too steep for surface application Droughty Too steep for sprinkler application Sodium content	1.00   0.98 0.90  0.50	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00  0.50
112: Snowslide-----	80	Very limited Droughty Sodium content	1.00 0.50	Very limited Seepage Sodium content	1.00 0.50
Zer-----	15	Very limited Filtering capacity Droughty	0.99  0.48	Very limited Seepage Cobble content	1.00 0.01
113: Snowslide-----	35	Very limited Droughty Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00  1.00  0.50	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00  0.50
Zer-----	30	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity Droughty	1.00  1.00  0.99 0.48	Very limited Seepage Too steep for surface application Cobble content	1.00 1.00  0.01

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
113: Snowslide, low precipitation-----	20	Very limited Droughty Too steep for surface application Too steep for sprinkler application Sodium content	1.00 1.00 1.00 0.50	Very limited Seepage Too steep for surface application Sodium content	1.00 1.00 0.50
114: Soen-----	80	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.69
115: Soen-----	70	Very limited Slow water movement Too steep for surface application Too steep for sprinkler application	1.00 1.00 0.10	Somewhat limited Seepage Too steep for surface application	0.69 0.22
Justesen-----	25	Very limited Too steep for surface application Slow water movement Too steep for sprinkler application	1.00 0.31 0.10	Very limited Seepage Too steep for surface application	1.00 0.22
116: Sparmo-----	75	Somewhat limited Sodium content Filtering capacity	0.08 0.01	Very limited Seepage Sodium content	1.00 0.08
117: Sparmo-----	50	Somewhat limited Sodium content Filtering capacity	0.08 0.01	Very limited Seepage Sodium content	1.00 0.08
Bluedome-----	35	Somewhat limited Depth to bedrock pan Depth to cemented pan Droughty Sodium content	0.95 0.95 0.90 0.02	Very limited Depth to cemented pan Seepage Depth to bedrock Sodium content	1.00 1.00 1.00 0.02

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation	Overland flow of wastewater		
		Rating class and limiting features	Value	Rating class and limiting features	Value
118: Sparmo-----	45	Somewhat limited Sodium content Filtering capacity	0.08 0.01	Very limited Seepage Sodium content	1.00 0.08
Zer-----	45	Very limited Filtering capacity Droughty	0.99 0.86	Very limited Seepage	1.00
119: Splittop-----	50	Somewhat limited Droughty Depth to bedrock Too steep for surface application	0.92 0.29 0.08	Very limited Seepage Depth to bedrock	1.00 1.00
Atomic-----	30	Somewhat limited Too steep for surface application	0.08	Very limited Seepage Depth to bedrock	1.00 0.77
120: Splittop-----	50	Somewhat limited Droughty Depth to bedrock Too steep for surface application	0.92 0.29 0.08	Very limited Seepage Depth to bedrock	1.00 1.00
Coffee-----	30	Very limited Sodium content Salinity Droughty Too steep for surface application	1.00 0.50 0.10 0.08	Very limited Sodium content Seepage Depth to bedrock	1.00 1.00 0.61
121: Stan-----	95	Very limited Filtering capacity	0.99	Very limited Seepage	1.00
122: Stan-----	55	Very limited Filtering capacity	0.99	Very limited Seepage	1.00
Breitenbach-----	30	Very limited Filtering capacity Droughty	1.00 0.04	Very limited Seepage	1.00
123: Stan, loamy fine sand surface-----	70	Very limited Filtering capacity	0.99	Very limited Seepage	1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
123: Stan-----	25	Very limited Filtering capacity	0.99	Very limited Seepage	1.00
124: Starlite-----	80	Somewhat limited Slow water movement Filtering capacity	0.31 0.01	Very limited Seepage	1.00
125: Techick-----	50	Very limited Filtering capacity Too steep for surface application Slow water movement	1.00 0.68 0.31	Very limited Seepage	1.00
Soelberg-----	45	Very limited Filtering capacity Too steep for surface application Slow water movement	1.00 0.68 0.31	Very limited Seepage	1.00
126: Techick-----	40	Very limited Filtering capacity Slow water movement	1.00 0.31	Very limited Seepage	1.00
Soelberg-----	35	Very limited Filtering capacity Slow water movement	1.00 0.31	Very limited Seepage	1.00
Lesbut-----	15	Very limited Filtering capacity Droughty	1.00 0.90	Very limited Seepage	1.00
127: Techicknot-----	45	Somewhat limited Too steep for surface application Slow water movement	0.68 0.31	Very limited Seepage	1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
127: Atom-----	25	Very limited Sodium content Too steep for surface application Slow water movement Too steep for sprinkler application	1.00 0.92  0.31 0.02	Very limited Sodium content Seepage Too steep for surface application	1.00 1.00 0.06
Nargon-----	20	Somewhat limited Depth to bedrock Too steep for surface application Droughty Slow water movement Too steep for sprinkler application	0.97 0.92  0.74 0.31 0.02	Very limited Seepage Depth to bedrock Too steep for surface application	1.00 1.00 0.06
128: Tenno-----	50	Very limited Depth to bedrock Droughty Too steep for surface application Large stones on the surface	1.00 0.99 0.68 0.08	Very limited Depth to bedrock Seepage Stone content	1.00 1.00 0.13
Splittop-----	25	Somewhat limited Too steep for surface application Depth to bedrock Droughty	0.68 0.16 0.11	Very limited Seepage Depth to bedrock	1.00 1.00
Lava flows-----	15	Not rated		Not rated	
129: Tenno-----	45	Very limited Depth to bedrock Droughty Large stones on the surface	1.00 0.99 0.08	Very limited Depth to bedrock Seepage Stone content	1.00 1.00 0.13
Splittop-----	25	Somewhat limited Depth to bedrock Droughty	0.46 0.31	Very limited Seepage Depth to bedrock	1.00 1.00
McCarey-----	20	Somewhat limited Depth to bedrock Droughty Slow water movement	0.99 0.81 0.31	Very limited Seepage Depth to bedrock	1.00 1.00



## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
130: Thornock-----	45	Very limited Droughty Depth to bedrock Large stones on the surface Too steep for surface application Slow water movement	1.00 1.00 1.00 0.68 0.31	Very limited Depth to bedrock Seepage Sodium content	1.00 1.00 0.08
Portino-----	35	Somewhat limited Too steep for surface application Depth to bedrock Sodium content Droughty	0.68 0.54 0.08 0.06	Very limited Seepage Depth to bedrock Sodium content	1.00 1.00 0.08
131: Thornock-----	50	Very limited Droughty Too steep for surface application Depth to bedrock Large stones on the surface Too steep for sprinkler application	1.00 1.00 1.00 1.00 0.40	Very limited Depth to bedrock Seepage Too steep for surface application Sodium content	1.00 1.00 0.78 0.08
Portino-----	25	Very limited Too steep for surface application Depth to bedrock Too steep for sprinkler application Droughty Sodium content	1.00 0.54 0.40 0.09 0.08	Very limited Seepage Depth to bedrock Too steep for surface application Sodium content	1.00 1.00 0.78 0.08
132: Thosand-----	50	Very limited Filtering capacity Depth to saturated zone Ponding Flooding Salinity	1.00 1.00 1.00 0.60 0.50	Very limited Flooding Depth to saturated zone Seepage Ponding	1.00 1.00 1.00 1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
132: Sancrane-----	25	Very limited Filtering capacity Depth to saturated zone Ponding Too acid	1.00 1.00 1.00 0.99	Very limited Seepage Depth to saturated zone Ponding Too acid	1.00 1.00 1.00 0.99
133: Truesdale-----	45	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Filtering capacity	0.99 0.99 0.98 0.01	Very limited Depth to cemented pan Seepage Depth to bedrock	1.00 1.00 1.00
Minidoka-----	40	Somewhat limited Depth to bedrock Depth to cemented pan Droughty	0.54 0.54 0.01	Very limited Depth to cemented pan Seepage Depth to bedrock	1.00 1.00 1.00
134: Vitale-----	45	Very limited Droughty Cobble content Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 1.00 1.00 0.31	Very limited Seepage Depth to bedrock Cobble content Too steep for surface application	1.00 1.00 1.00 1.00
Blackspar-----	35	Very limited Droughty Too steep for surface application Depth to bedrock Too steep for sprinkler application Cobble content	1.00 1.00 1.00 1.00 1.00	Very limited Depth to bedrock Seepage Too steep for surface application Cobble content	1.00 1.00 1.00 0.70
135: Whitecloud-----	75	Very limited Filtering capacity Droughty	1.00 0.86	Very limited Seepage	1.00
136: Whitecloud-----	55	Very limited Filtering capacity Droughty	1.00 0.81	Very limited Seepage	1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
136: Sanfelipe-----	25	Somewhat limited Droughty	0.36	Very limited Seepage	1.00
137: Zeale-----	70	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 0.60 0.60	Very limited Seepage Too steep for surface application	1.00 0.94
Zeale, high precipitation-----	25	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 0.60 0.40	Very limited Seepage Too steep for surface application	1.00 0.94
138: Zeale-----	70	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 0.60	Very limited Too steep for surface application Seepage	1.00 1.00
Zeale, high precipitation-----	25	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 0.40	Very limited Too steep for surface application Seepage	1.00 1.00
139: Zeale-----	35	Very limited Too steep for surface application Too steep for sprinkler application Droughty	1.00 1.00 0.37	Very limited Too steep for surface application Seepage	1.00 1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
139: Coalkiln-----	25	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity Too acid Droughty	1.00  1.00  0.99 0.99 0.05	Very limited Seepage Too steep for surface application Too acid Sodium content Cobble content	1.00 1.00  0.99 0.02 0.01
Jimbee-----	25	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage Stone content	1.00 1.00 1.00 0.06
140: Zeebar, cool-----	55	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Droughty	1.00 1.00  0.31 0.04	Very limited Too steep for surface application Seepage Stone content	1.00 1.00 0.01
Zeebar-----	30	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Droughty	1.00 1.00  0.31 0.23	Very limited Too steep for surface application Seepage	1.00 1.00
141: Zeebar-----	40	Very limited Too steep for surface application Too steep for sprinkler application Droughty Slow water movement	1.00 1.00  0.78 0.31	Very limited Too steep for surface application Seepage	1.00 1.00

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
141: Parvis-----	25	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement Droughty	1.00  1.00  0.31 0.06	Very limited Too steep for surface application Stone content Seepage	1.00  1.00 1.00
Howcan-----	20	Very limited Too steep for surface application Too steep for sprinkler application Droughty Large stones on the surface Filtering capacity	1.00  1.00  0.63 0.02 0.01	Very limited Seepage Too steep for surface application Stone content Cobble content Depth to bedrock	1.00 1.00  1.00 0.96 0.14
142: Zer-----	85	Somewhat limited Droughty Filtering capacity	0.02 0.01	Very limited Seepage	1.00
143: Zer-----	85	Very limited Too steep for surface application Droughty Too steep for sprinkler application Filtering capacity	1.00  0.63 0.10  0.01	Very limited Seepage Too steep for surface application Cobble content	1.00 0.22  0.01
144: Zer-----	95	Very limited Too steep for surface application Filtering capacity Droughty Too steep for sprinkler application Cobble content	1.00  0.99  0.87 0.78  0.02	Very limited Seepage Too steep for surface application Cobble content	1.00 1.00  0.01

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
145: Zer-----	80	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity Droughty	1.00  1.00  0.99 0.98	Very limited Too steep for surface application Seepage	1.00  1.00
146: Zer-----	45	Very limited Too steep for surface application Too steep for sprinkler application Droughty Filtering capacity	1.00  0.40  0.36 0.01	Very limited Seepage Too steep for surface application Cobble content	1.00 0.78  0.02
Snowslide-----	40	Very limited Too steep for surface application Sodium content Droughty Too steep for sprinkler application	1.00  0.50 0.48 0.40	Very limited Seepage Too steep for surface application Sodium content	1.00 0.78  0.50
147: Zer-----	65	Very limited Filtering capacity Droughty	0.99  0.62	Very limited Seepage	1.00
Whiteknob-----	25	Very limited Filtering capacity Droughty	1.00  0.95	Very limited Seepage	1.00
148: Mooretown-----	45	Very limited Filtering capacity Depth to saturated zone Flooding	1.00  0.95 0.60	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 0.95
Blackfoot-----	25	Somewhat limited Depth to saturated zone	0.95	Very limited Seepage Depth to saturated zone	1.00 0.95

## Agricultural Disposal of Wastewater by Irrigation and Overland Flow--Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
148: Borah-----	20	Very limited Filtering capacity Depth to saturated zone Droughty Flooding	1.00 1.00 1.00 0.60	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00
149: Drage, cool-----	85	Very limited Too steep for surface application Droughty Slow water movement Too steep for sprinkler application	1.00 0.37 0.31 0.22	Very limited Seepage Cobble content Too steep for surface application	1.00 0.54 0.50
150: Vitale-----	45	Very limited Droughty Too steep for surface application Too steep for sprinkler application Cobble content Depth to bedrock	1.00 1.00 1.00 1.00 0.95	Very limited Seepage Too steep for surface application Depth to bedrock Cobble content	1.00 1.00 1.00 1.00
Blackspars-----	35	Very limited Droughty Too steep for surface application Too steep for sprinkler application Depth to bedrock Cobble content	1.00 1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Seepage Cobble content	1.00 1.00 1.00 0.75

**Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment**

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1: Arco-----	85	Very limited Slow water movement Depth to saturated zone Flooding	1.00 1.00 0.60	Somewhat limited Depth to saturated zone Flooding Slow water movement	0.65 0.60 0.21
2: Atom-----	80	Very limited Slow water movement	1.00	Very limited Sodium content Slow water movement	1.00 0.21
3: Atom-----	85	Very limited Slow water movement Slope	1.00 0.50	Very limited Sodium content Too steep for surface application Slow water movement	1.00 0.68 0.21
4: Atom-----	50	Very limited Slow water movement	1.00	Very limited Sodium content Slow water movement	1.00 0.21
Splittop-----	40	Very limited Depth to bedrock Slow water movement	1.00 1.00	Very limited Depth to bedrock	1.00
5: Bealand-----	60	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00
Zeale-----	25	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00



Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
6: Blackfoot-----	85	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Somewhat limited Depth to saturated zone Slow water movement	0.99  0.21
7: Bluedome-----	80	Very limited Depth to bedrock Depth to cemented pan Slow water movement	1.00 1.00  1.00	Very limited Depth to cemented pan Depth to bedrock Too steep for surface application Sodium content	1.00  1.00 0.08  0.02
8: Bluedome-----	50	Very limited Depth to bedrock Depth to cemented pan Slow water movement	1.00 1.00  1.00	Very limited Depth to cemented pan Depth to bedrock Too steep for surface application Sodium content	1.00  1.00 0.08  0.02
McCaleb-----	30	Very limited Slow water movement	1.00	Somewhat limited Too steep for surface application Sodium content	0.08  0.08
9: Bockston-----	80	Very limited Slow water movement	1.00	Somewhat limited Filtering capacity	0.01
10: Breitenbach-----	80	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
11: Breitenbach-----	65	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
Stan-----	25	Not limited		Very limited Filtering capacity	1.00

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
12: Buist-----	90	Very limited Slow water movement	1.00	Somewhat limited Too steep for surface	0.92
		Slope	0.88	application	
		Cobble content	0.01	Too steep for sprinkler irrigation	0.06
				Filtering capacity	0.01
13: Bunting-----	95	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
		Cobble content	0.04		
14: Coffee-----	80	Very limited Depth to bedrock	1.00	Very limited Sodium content	1.00
		Slow water movement	1.00	Depth to bedrock	0.61
				Salinity	0.50
15: Coffee-----	45	Very limited Depth to bedrock	1.00	Very limited Sodium content	1.00
		Slow water movement	1.00	Too steep for surface	1.00
		Slope	1.00	application	
				Too steep for sprinkler irrigation	1.00
				Depth to bedrock	0.61
				Salinity	0.50
Nargon-----	30	Very limited Slow water movement	1.00	Very limited Depth to bedrock	1.00
		Depth to bedrock	1.00	Too steep for surface	1.00
		Slope	1.00	application	
				Too steep for sprinkler irrigation	1.00
				Slow water movement	0.21
16: Coffee-----	30	Very limited Depth to bedrock	1.00	Very limited Sodium content	1.00
		Slow water movement	1.00	Too steep for surface	0.92
		Slope	0.88	application	
				Depth to bedrock	0.61
				Salinity	0.50
				Too steep for sprinkler irrigation	0.06

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
16: Nargon-----	30	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 0.88	Very limited Depth to bedrock Too steep for surface application Slow water movement Too steep for sprinkler irrigation	1.00 0.92  0.21 0.06
Atom-----	15	Very limited Slow water movement Slope	1.00 0.88	Very limited Sodium content Too steep for surface application Slow water movement Too steep for sprinkler irrigation	1.00 0.92  0.21 0.06
17: Cronks-----	40	Very limited Slope Slow water movement Cobble content	1.00 1.00 0.99	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement Cobble content	1.00 1.00 1.00 0.96 0.02
Dacont-----	35	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Sodium content Filtering capacity	1.00 1.00 0.02 0.01
18: Crooked Creek-----	85	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Somewhat limited Slow water movement	0.96

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
19: Cryoborolls-----	50	Very limited Slope Slow water movement Cobble content	1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Cobble content	1.00 1.00 1.00 0.95
Rubble land-----	20	Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated	
20: Darlington-----	60	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
Lesbut-----	35	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
21: Denied access-----	100	Not rated		Not rated	
22: Deuce-----	45	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.88	Very limited Depth to bedrock Too steep for surface application Large stones on the surface Too steep for sprinkler irrigation	1.00 0.92 0.32 0.06
Nargon-----	20	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 0.88	Very limited Depth to bedrock Too steep for surface application Slow water movement Too steep for sprinkler irrigation	1.00 0.92 0.21 0.06
Lava flows-----	15	Not rated		Not rated	

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
23: Deuce-----	35	Very limited Slope Depth to bedrock Slow water movement Cobble content Stone content	1.00 1.00 1.00 0.02 0.01	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Large stones on the surface	1.00 1.00 1.00 1.00 0.32
Nargon-----	20	Very limited Slope Slow water movement Depth to bedrock Stone content	1.00 1.00 1.00 0.30	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Slow water movement	1.00 1.00 1.00 1.00 0.21
Lava flows-----	20	Not rated		Not rated	
24: Dickeypeak-----	50	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Sodium content Salinity Depth to saturated zone Filtering capacity	1.00 1.00 0.84 0.01
Bigrant-----	40	Very limited Slow water movement Depth to saturated zone Flooding	1.00 1.00 0.60	Very limited Depth to saturated zone Flooding Salinity Sodium content Slow water movement	1.00 0.60 0.50 0.50 0.21
25: Donkehill-----	85	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00
26: Dredge-----	80	Very limited Slow water movement	1.00	Not limited	

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
27: Elbow-----	80	Very limited Depth to bedrock Depth to cemented pan Slow water movement	1.00 1.00 1.00	Very limited Depth to bedrock Depth to cemented pan Filtering capacity	1.00 1.00 0.01
28: Fallert-----	80	Somewhat limited Slow water movement Slope	0.31 0.12	Somewhat limited Too steep for surface application Filtering capacity	0.32 0.01
29: Fallert, dry-----	80	Somewhat limited Slow water movement	0.31	Somewhat limited Too steep for surface application Filtering capacity	0.08 0.01
30: Fandow-----	80	Very limited Depth to bedrock Depth to cemented pan Slow water movement	1.00 1.00 1.00	Very limited Depth to bedrock Depth to cemented pan Too steep for surface application	1.00 1.00 0.08
31: Fulwider, high precipitation-----	40	Very limited Depth to bedrock Depth to cemented pan Slow water movement Slope	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Depth to cemented pan Too steep for surface application Too steep for sprinkler irrigation Sodium content	1.00 1.00 1.00 1.00 0.32
Fulwider, low precipitation-----	30	Very limited Depth to bedrock Depth to cemented pan Slow water movement Slope	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Depth to cemented pan Too steep for surface application Too steep for sprinkler irrigation Sodium content	1.00 1.00 1.00 1.00 0.32

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31: Fulwider-----	15	Very limited Depth to bedrock Depth to cemented pan Slow water movement Slope	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Depth to cemented pan Too steep for surface application Too steep for sprinkler irrigation Sodium content	1.00 1.00 1.00 1.00 0.32
32: Goosebury, high precipitation-----	90	Very limited Slow water movement Slope	1.00 1.00	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00
33: Goosebury-----	80	Very limited Slow water movement Slope	1.00 0.12	Very limited Filtering capacity Too steep for surface application	1.00 0.32
34: Goosebury, low precipitation-----	45	Very limited Slope Slow water movement Cobble content	1.00 1.00 0.22	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity	1.00 1.00 0.01
Goosebury, high precipitation-----	35	Very limited Slope Slow water movement	1.00 1.00	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
35: Hagenbarth-----	30	Very limited Slow water movement Slope	1.00  1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00  1.00  0.21
Howcan-----	25	Very limited Slope Depth to bedrock Stone content Slow water movement Cobble content	1.00 1.00 1.00 1.00 0.99	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Large stones on the surface Filtering capacity	1.00  1.00  0.14 0.02 0.01
Jonda-----	20	Very limited Slow water movement Cobble content Slope	1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity Slow water movement	1.00  1.00  0.99 0.21
36: Hal-----	60	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity	1.00  1.00  0.99
Moonville-----	25	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00  1.00



Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
37: Hondoho-----	85	Very limited Slow water movement Slope Stone content Cobble content	1.00 1.00 0.66 0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation Cobble content	1.00 1.00 1.00 0.02
38: Howcan-----	50	Very limited Slope Depth to bedrock Slow water movement Stone content Cobble content	1.00 1.00 1.00 1.00 0.99	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Large stones on the surface Filtering capacity	1.00 1.00 1.00 0.14 0.02 0.01
Hutchley-----	35	Very limited Slope Slow water movement Depth to bedrock Cobble content	1.00 1.00 1.00 0.66	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Cobble content	1.00 1.00 1.00 0.21 0.08
Rock outcrop-----	10	Not rated		Not rated	
39: Howcan-----	35	Very limited Slope Depth to bedrock Stone content Slow water movement Cobble content	1.00 1.00 1.00 1.00 0.99	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Large stones on the surface Filtering capacity	1.00 1.00 1.00 0.14 0.02 0.01

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
39: Zeebar-----	25	Very limited Slope Slow water movement Stone content	1.00 1.00 0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 1.00 0.21
Hutchley-----	20	Very limited Slope Slow water movement Depth to bedrock Cobble content	1.00 1.00 1.00 0.66	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement Cobble content	1.00 1.00 1.00 0.21 0.08
40: Huddle-----	65	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.88	Somewhat limited Too steep for surface application Depth to bedrock Too steep for sprinkler irrigation Sodium content	0.92 0.42 0.06 0.02
Moonville-----	20	Very limited Slow water movement Slope	1.00 0.88	Somewhat limited Too steep for surface application Too steep for sprinkler irrigation	0.92 0.06
41: Ike-----	40	Very limited Slope Depth to bedrock Slow water movement Cobble content	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
41: Jimbee-----	15	Very limited Slope Depth to bedrock Slow water movement Stone content	1.00 1.00 1.00 0.08	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00
42: Ike-----	45	Very limited Slope Depth to bedrock Slow water movement Cobble content	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00
Simeroi-----	30	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00
Rock outcrop-----	10	Not rated		Not rated	
43: Inel-----	35	Very limited Slope Depth to bedrock Slow water movement Cobble content Stone content	1.00 1.00 1.00 0.41 0.15	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00
Matheson-----	30	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.31	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity Depth to bedrock	1.00 1.00 0.99 0.84
Rock outcrop-----	25	Not rated		Not rated	

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
44: Inel-----	55	Very limited Slope Depth to bedrock Slow water movement Cobble content Stone content	1.00 1.00 1.00 0.10 0.07	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00
Slide-----	15	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00
Rock outcrop-----	15	Not rated		Not rated	
45: Jimbee-----	40	Very limited Slope Depth to bedrock Slow water movement Stone content	1.00 1.00 1.00 0.08	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	
Ike-----	15	Very limited Slope Depth to bedrock Slow water movement Cobble content	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00
46: Jimbee-----	40	Very limited Slope Depth to bedrock Slow water movement Stone content	1.00 1.00 1.00 0.99	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Large stones on the surface	1.00 1.00 1.00 0.32

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
46: Skibo-----	30	Very limited Slope Slow water movement Stone content	1.00 1.00 0.14	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00
Ike-----	15	Very limited Slope Depth to bedrock Slow water movement Cobble content	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00
47: Justesen-----	45	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 0.94 0.21
Drage-----	40	Very limited Slow water movement Slope Cobble content Stone content	1.00 1.00 0.83 0.02	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.21
48: Ketchum-----	50	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity Too acid	1.00 1.00 0.99 0.99
Povey-----	30	Very limited Slope Depth to bedrock Slow water movement Cobble content Stone content	1.00 1.00 1.00 1.00 0.10	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock	1.00 1.00 1.00 0.08

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
49: Kimama-----	90	Very limited Slow water movement	1.00	Not limited	
50: Klug-----	90	Very limited Slow water movement	1.00	Very limited	1.00
		Slope	1.00	Too steep for surface application	
		Cobble content	0.04	Too steep for sprinkler irrigation	0.78
51: Klug-----	60	Very limited		Very limited	
		Slope	1.00	Too steep for	1.00
		Slow water movement	1.00	surface application	
		Cobble content	0.04	Too steep for sprinkler irrigation	1.00
Parvis-----	20	Very limited		Very limited	
		Slope	1.00	Too steep for	1.00
		Slow water movement	1.00	surface application	
		Stone content	1.00	Too steep for sprinkler irrigation	1.00
				Slow water movement	0.21
52: Lag-----	90	Very limited		Very limited	
		Slope	1.00	Too steep for	1.00
		Stone content	0.93	surface application	
		Slow water movement	0.31	Too steep for sprinkler irrigation	1.00
				Filtering capacity	0.99
				Too acid	0.99
53: Lavacreek-----	65	Very limited		Very limited	
		Slope	1.00	Too steep for	1.00
		Depth to bedrock	1.00	surface application	
		Cobble content	1.00	Too steep for sprinkler irrigation	1.00
		Slow water movement	1.00	Cobble content	1.00
				Filtering capacity	0.01

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
53: Dollarhide-----	25	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.31	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Filtering capacity	1.00 1.00 1.00 0.01
54: Lavacreek-----	45	Very limited Slope Depth to bedrock Cobble content Slow water movement	1.00 1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Cobble content Filtering capacity	1.00 1.00 1.00 1.00 0.01
Dollarhide-----	20	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.31	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Filtering capacity	1.00 1.00 1.00 0.01
Grassycone-----	20	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity Too acid	1.00 1.00 0.99 0.99
55: Lavacreek-----	45	Very limited Slope Depth to bedrock Cobble content Slow water movement	1.00 1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Cobble content Filtering capacity	1.00 1.00 1.00 1.00 0.01

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
55: Vitale-----	35	Very limited Slope Slow water movement Depth to bedrock Cobble content	1.00 1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Cobble content Slow water movement	1.00  1.00 1.00 1.00 1.00 0.21
56: Lava flows-----	100	Not rated		Not rated	
57: Lava flows-----	70	Not rated		Not rated	
Cinderhurst-----	20	Very limited Depth to bedrock Cobble content Slow water movement Slope	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Cobble content Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00 0.50
58: Lava flows-----	60	Not rated		Not rated	
Pingree-----	35	Very limited Depth to bedrock Slow water movement Stone content	1.00 1.00 0.14	Very limited Depth to bedrock	1.00
59: Leatherman-----	45	Very limited Slope Depth to bedrock Depth to cemented pan Slow water movement	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Depth to cemented pan Too steep for surface application Too steep for sprinkler irrigation Sodium content	1.00 1.00 1.00 1.00 0.82
Adek, dry-----	20	Very limited Slow water movement Slope Cobble content	1.00 1.00 0.61	Very limited Too steep for surface application Too steep for sprinkler irrigation Sodium content	1.00 1.00 0.02



Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
59: Adek-----	15	Very limited Slope Cobble content Slow water movement	1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Sodium content	1.00 1.00 0.02
60: Leatherman-----	45	Very limited Depth to bedrock Depth to cemented pan Slow water movement Slope	1.00 1.00 1.00 0.12	Very limited Depth to bedrock Depth to cemented pan Sodium content Too steep for surface application	1.00 1.00 0.82 0.32
Bluedome-----	30	Very limited Depth to bedrock Depth to cemented pan Slow water movement Slope	1.00 1.00 1.00 0.12	Very limited Depth to cemented pan Depth to bedrock Too steep for surface application Sodium content	1.00 1.00 0.32 0.02
61: Malm-----	60	Very limited Depth to bedrock Slow water movement Slope	1.00 0.31 0.12	Very limited Depth to bedrock Too steep for surface application Filtering capacity	1.00 0.32 0.01
Bondfarm-----	20	Very limited Depth to bedrock Slow water movement Slope Cobble content	1.00 0.31 0.12 0.01	Very limited Depth to bedrock Too steep for surface application Cobble content Filtering capacity	1.00 0.32 0.01 0.01
Matheson-----	15	Very limited Depth to bedrock Slow water movement Slope	1.00 0.31 0.12	Very limited Filtering capacity Depth to bedrock Too steep for surface application	0.99 0.84 0.32

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
62: Matheson-----	70	Very limited Depth to bedrock Slope Slow water movement	1.00 1.00 0.31	Very limited Too steep for surface application Filtering capacity Depth to bedrock Too steep for sprinkler irrigation	1.00  0.99 0.84 0.50
Grassy Butte-----	20	Very limited Slope	1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity Sodium content	1.00  1.00 0.99 0.02
63: McCain-----	65	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slow water movement	1.00 0.21
Thornock-----	20	Very limited Slow water movement Depth to bedrock Stone content	1.00 1.00 0.01	Very limited Depth to bedrock Large stones on the surface Slow water movement Sodium content	1.00 1.00 0.21 0.08
64: McCarey-----	45	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slow water movement Too steep for surface application	1.00 0.21 0.08
Beartrap-----	35	Very limited Depth to bedrock Slow water movement	1.00 1.00	Somewhat limited Depth to bedrock Too steep for surface application	0.26 0.08

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
65: McCarey-----	60	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 1.00 0.21
Beartrap-----	25	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock	1.00 1.00 0.26
66: McCarey-----	40	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.50 0.21
Beartrap-----	30	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock	1.00 0.50 0.26
Rock outcrop-----	25	Not rated		Not rated	
67: McCarey-----	40	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.50 0.21

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
67: Molyneux-----	25	Very limited Slow water movement Slope	1.00 0.12	Somewhat limited Too steep for surface application Slow water movement	0.32 0.21
Lava flows-----	20	Not rated		Not rated	
68: McCarey-----	55	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 0.50	Very limited Depth to bedrock Too steep for surface application Slow water movement	1.00 0.68 0.21
Splittop-----	20	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.50	Very limited Depth to bedrock Too steep for surface application	1.00 0.68
Lava flows-----	15	Not rated		Not rated	
69: McCarey-----	45	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.50 0.21
Vickton-----	20	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 0.50	Somewhat limited Too steep for surface application Slow water movement Depth to bedrock	0.68 0.21 0.01
Lava flows-----	15	Not rated		Not rated	
70: McClenden-----	55	Very limited Depth to bedrock Depth to cemented pan Slow water movement	1.00 1.00 1.00	Somewhat limited Depth to bedrock Depth to cemented pan Sodium content Filtering capacity	0.32 0.32 0.18 0.01

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
70: Thornock-----	20	Very limited Slow water movement Depth to bedrock Stone content	1.00 1.00 0.01	Very limited Depth to bedrock Large stones on the surface Slow water movement Sodium content	1.00 1.00 0.21 0.08
71: Medicine-----	60	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
Whiteknob-----	25	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
72: Menan-----	85	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.21
73: Mogg-----	45	Very limited Slope Depth to bedrock Slow water movement Stone content	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Large stones on the surface	1.00 1.00 1.00 1.00 1.00
Shagel-----	30	Very limited Slope Depth to bedrock Slow water movement Stone content	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Large stones on the surface Filtering capacity	1.00 1.00 1.00 1.00 0.01
74: Mooretown-----	50	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 0.60	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 0.95 0.60

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
74: Borah-----	40	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 0.60	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 1.00 0.60
75: Mooretown, drained--	50	Very limited Slow water movement Flooding	1.00 0.60	Very limited Filtering capacity Flooding	1.00 0.60
Borco-----	30	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
76: Nargon-----	35	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.94 0.21
Atom-----	30	Very limited Slow water movement Slope	1.00 1.00	Very limited Sodium content Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.94 0.21
Techicknot-----	25	Very limited Slow water movement Slope	1.00 0.50	Somewhat limited Too steep for surface application Slow water movement	0.68 0.21
77: Nargon-----	50	Very limited Slow water movement Depth to bedrock Slope Stone content	1.00 1.00 1.00 0.30	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.94 0.21

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
77: Deuce-----	20	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Large stones on the surface	1.00 1.00 0.94 0.32
Lava flows-----	10	Not rated		Not rated	
78: Nitchly-----	75	Very limited Slope Slow water movement Cobble content	1.00 1.00 0.03	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.21
79: Nurkey-----	50	Very limited Slow water movement Slope Cobble content Stone content	1.00 1.00 0.23 0.02	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.21
Dacont-----	30	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Sodium content Filtering capacity	1.00 1.00 0.02 0.01
80: Nurkey-----	50	Very limited Slope Slow water movement Cobble content Stone content	1.00 1.00 0.23 0.02	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.21

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
80: Dacont-----	35	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Sodium content Filtering capacity	1.00 1.00 0.02 0.01
81: Nurkey-----	80	Very limited Slow water movement Slope Cobble content Stone content	1.00 1.00 0.17 0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.21
Nurkey, low precipitation-----	20	Very limited Slow water movement Slope Cobble content Stone content	1.00 1.00 0.17 0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.21
82: Calclids-----	50	Very limited Slope Slow water movement Cobble content	1.00 1.00 0.65	Very limited Too steep for surface application Too steep for sprinkler irrigation Cobble content	1.00 1.00 0.24
Rubble land-----	20	Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated	
83: Packmo-----	50	Very limited Slope Slow water movement Cobble content	1.00 1.00 0.10	Very limited Too steep for surface application Filtering capacity Too steep for sprinkler irrigation	1.00 0.99 0.78



Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
83: Snowslide-----	40	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Sodium content	1.00  0.78 0.50
84: Paint-----	45	Very limited Depth to bedrock Depth to cemented pan Slow water movement Slope	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Depth to cemented pan Too steep for surface application Sodium content Too steep for sprinkler irrigation	1.00 1.00 1.00 0.82 0.22
Fallert-----	40	Very limited Slope Slow water movement	1.00 0.31	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity	1.00 0.22 0.01
85: Paint-----	65	Very limited Depth to bedrock Depth to cemented pan Slow water movement	1.00 1.00 1.00	Very limited Depth to bedrock Depth to cemented pan Sodium content	1.00 1.00 0.82
Whitecloud-----	20	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
86: Pancheri-----	80	Very limited Slow water movement Slope	1.00 0.12	Somewhat limited Too steep for surface application Sodium content	0.32 0.32

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
87: Pancheri-----	45	Very limited Slow water movement Slope	1.00 0.88	Somewhat limited Too steep for surface application Sodium content Too steep for sprinkler irrigation	0.92 0.32 0.06
Polatis-----	30	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.88	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	1.00 0.92 0.06
88: Playas-----	100	Not rated		Not rated	
89: Polatis-----	90	Very limited Depth to bedrock Slow water movement	1.00 1.00	Very limited Depth to bedrock	1.00
90: Portino-----	55	Very limited Depth to bedrock Slow water movement	1.00 1.00	Very limited Depth to bedrock Sodium content	1.00 0.08
Thornock-----	30	Very limited Slow water movement Depth to bedrock Stone content	1.00 1.00 0.01	Very limited Depth to bedrock Large stones on the surface Slow water movement Sodium content	1.00 1.00 0.21 0.08
91: Riverlost-----	45	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement Cobble content Filtering capacity	1.00 1.00 0.96 0.59 0.01

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
91: Frymire-----	40	Very limited Slope Slow water movement Cobble content Stone content	1.00 1.00 1.00 0.95	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement Cobble content Large stones on the surface	1.00 1.00 1.00 0.96 0.59 0.32
92: Riverlost-----	60	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement Cobble content Filtering capacity	1.00 1.00 0.96 0.59 0.01
Grouseville-----	20	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.96
93: Riverlost-----	55	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement Cobble content Filtering capacity	1.00 1.00 0.96 0.59 0.01

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
93: Soen-----	30	Very limited Slow water movement Slope	1.00  1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00  1.00  0.96
94: Rubble land-----	40	Not rated		Not rated	
Milligan-----	35	Very limited Slope Depth to bedrock Stone content Cobble content Slow water movement	1.00 1.00 1.00 0.53 0.31	Very limited Filtering capacity Cobble content Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock	1.00  1.00 1.00  1.00
95: Sanfelipe-----	85	Very limited Slow water movement Slope Cobble content	1.00  0.50 0.01	Somewhat limited Too steep for surface application	0.68
96: Sanfelipe-----	90	Very limited Slope Slow water movement Cobble content	1.00 1.00 0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00  0.78
97: Sanfelipe-----	65	Very limited Slow water movement	1.00	Somewhat limited Filtering capacity	0.01
McCaleb-----	25	Very limited Slow water movement	1.00	Somewhat limited Sodium content	0.82
98: Sanfelipe-----	70	Very limited Slow water movement	1.00	Not limited	
Simeroi-----	20	Very limited Slow water movement	1.00	Not limited	

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
99: Simeroi-----	85	Very limited Slow water movement	1.00	Somewhat limited Too steep for surface application	0.08
100: Simeroi-----	75	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 0.50
101: Simeroi-----	85	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 0.78
102: Simeroi, cool-----	85	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00
103: Simeroi, dry-----	80	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00
104: Simeroi-----	60	Very limited Slow water movement Slope	1.00 0.12	Somewhat limited Too steep for surface application	0.32
Paint-----	25	Very limited Depth to bedrock Depth to cemented pan Slow water movement Slope	1.00 1.00 1.00 0.12	Very limited Depth to bedrock Depth to cemented pan Sodium content Too steep for surface application	1.00 1.00 0.82 0.32

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
105: Simeroi, dry-----	50	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00
Simeroi-----	30	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00
106: Simeroi-----	60	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 0.22
Sparmo-----	25	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Sodium content Filtering capacity	1.00 0.22 0.08 0.01
107: Simeroi-----	40	Very limited Slow water movement	1.00	Somewhat limited Too steep for surface application	0.08
Slide-----	35	Very limited Slow water movement	1.00	Somewhat limited Too steep for surface application	0.08
McCaleb-----	15	Very limited Slow water movement	1.00	Somewhat limited Sodium content Too steep for surface application	0.82 0.08

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
108: Simeroi-----	40	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00
Bealand-----	40	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00
109: Slide-----	80	Very limited Slow water movement Slope	1.00 0.50	Very limited Filtering capacity Too steep for surface application	0.99 0.68
110: Snowslide-----	80	Very limited Slow water movement Slope	1.00 0.50	Somewhat limited Too steep for surface application Sodium content	0.68 0.50
111: Snowslide-----	85	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Sodium content	1.00 1.00 0.50
112: Snowslide-----	80	Very limited Slow water movement	1.00	Somewhat limited Sodium content	0.50
Zer-----	15	Very limited Slow water movement Cobble content	1.00 0.01	Very limited Filtering capacity	0.99

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
113: Snowslide-----	35	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Sodium content	1.00 1.00 0.50
Zer-----	30	Very limited Slow water movement Slope Cobble content	1.00 1.00 0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity	1.00 1.00 0.99
Snowslide, low precipitation-----	20	Very limited Slow water movement Slope Cobble content	1.00 1.00 0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation Sodium content	1.00 1.00 0.50
114: Soen-----	80	Very limited Slow water movement	1.00	Somewhat limited Slow water movement	0.96
115: Soen-----	70	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Slow water movement Too steep for sprinkler irrigation	1.00 0.96 0.22
Justesen-----	25	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 0.22 0.21



Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
116: Sparmo-----	75	Very limited Slow water movement	1.00	Somewhat limited Sodium content Filtering capacity	0.08 0.01
117: Sparmo-----	50	Very limited Slow water movement	1.00	Somewhat limited Sodium content Filtering capacity	0.08 0.01
Bluedome-----	35	Very limited Depth to bedrock	1.00	Very limited Depth to cemented	1.00
		pan	1.00	pan	
		Slow water movement	1.00	Depth to bedrock Sodium content	1.00 0.02
118: Sparmo-----	45	Very limited Slow water movement	1.00	Somewhat limited Sodium content Filtering capacity	0.08 0.01
Zer-----	45	Very limited Slow water movement	1.00	Very limited Filtering capacity	0.99
119: Splittop-----	50	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	0.08
Atomic-----	30	Very limited Depth to bedrock	1.00	Somewhat limited Depth to bedrock	0.77
		Slow water movement	1.00	Too steep for surface application	0.08
120: Splittop-----	50	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	0.08
Coffee-----	30	Very limited Depth to bedrock	1.00	Very limited Sodium content	1.00
		Slow water movement	1.00	Depth to bedrock	0.61
				Salinity	0.50
				Too steep for surface application	0.08

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
121: Stan-----	95	Somewhat limited Slow water movement	0.31	Very limited Filtering capacity	0.99
122: Stan-----	55	Somewhat limited Slow water movement	0.31	Very limited Filtering capacity	0.99
Breitenbach-----	30	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
123: Stan, loamy fine sand surface-----	70	Somewhat limited Slow water movement	0.31	Very limited Filtering capacity	0.99
Stan-----	25	Somewhat limited Slow water movement	0.31	Very limited Filtering capacity	0.99
124: Starlite-----	80	Very limited Slow water movement	1.00	Somewhat limited Slow water movement Filtering capacity	0.21 0.01
125: Techick-----	50	Very limited Slow water movement Slope	1.00 0.50	Very limited Filtering capacity Too steep for surface application Slow water movement	1.00 0.68 0.21
Soelberg-----	45	Very limited Slow water movement Slope	1.00 0.50	Very limited Filtering capacity Too steep for surface application Slow water movement	1.00 0.68 0.21
126: Techick-----	40	Very limited Slow water movement	1.00	Very limited Filtering capacity Slow water movement	1.00 0.21

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
126: Soelberg-----	35	Very limited Slow water movement	1.00	Very limited Filtering capacity Slow water movement	1.00 0.21
Lesbut-----	15	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
127: Techicknot-----	45	Very limited Slow water movement Slope	1.00 0.50	Somewhat limited Too steep for surface application Slow water movement	0.68 0.21
Atom-----	25	Very limited Slow water movement Slope	1.00 0.88	Very limited Sodium content Too steep for surface application Slow water movement Too steep for sprinkler irrigation	1.00 0.92 0.21 0.06
Nargon-----	20	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 0.88	Very limited Depth to bedrock Too steep for surface application Slow water movement Too steep for sprinkler irrigation	1.00 0.92 0.21 0.06
128: Tenno-----	50	Very limited Depth to bedrock Slow water movement Stone content Slope	1.00 1.00 0.77 0.50	Very limited Depth to bedrock Too steep for surface application Large stones on the surface	1.00 0.68 0.08
Splittop-----	25	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.50	Very limited Depth to bedrock Too steep for surface application	1.00 0.68
Lava flows-----	15	Not rated		Not rated	

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
129: Tenno-----	45	Very limited Depth to bedrock Slow water movement Stone content	1.00 1.00 0.77	Very limited Depth to bedrock Large stones on the surface	1.00 0.08
Splittop-----	25	Very limited Depth to bedrock Slow water movement	1.00 1.00	Very limited Depth to bedrock	1.00
McCarey-----	20	Very limited Slow water movement Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slow water movement	1.00 0.21
130: Thornock-----	45	Very limited Slow water movement Depth to bedrock Slope Stone content	1.00 1.00 0.50 0.01	Very limited Depth to bedrock Large stones on the surface Too steep for surface application Slow water movement Sodium content	1.00 1.00 0.68 0.21 0.08
Portino-----	35	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.50	Very limited Depth to bedrock Too steep for surface application Sodium content	1.00 0.68 0.08
131: Thornock-----	50	Very limited Slope Slow water movement Depth to bedrock Stone content	1.00 1.00 1.00 0.01	Very limited Depth to bedrock Too steep for surface application Large stones on the surface Too steep for sprinkler irrigation Slow water movement	1.00 1.00 1.00 0.78 0.21
Portino-----	25	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 1.00	Very limited Too steep for surface application Depth to bedrock Too steep for sprinkler irrigation Sodium content	1.00 1.00 0.78 0.08

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
132: Thosand-----	50	Very limited Depth to saturated zone Slow water movement Ponding Flooding	1.00 1.00 1.00 0.60	Very limited Filtering capacity Depth to saturated zone Ponding Flooding Salinity	1.00 1.00 1.00 0.60 0.50
Sancrane-----	25	Very limited Depth to saturated zone Slow water movement Ponding	1.00 1.00 1.00	Very limited Filtering capacity Depth to saturated zone Ponding Too acid	1.00 1.00 1.00 0.99
133: Truesdale-----	45	Very limited Depth to bedrock Depth to cemented pan Slow water movement	1.00 1.00 1.00	Very limited Depth to cemented pan Depth to bedrock Filtering capacity	1.00 1.00 0.01
Minidoka-----	40	Very limited Depth to bedrock Depth to cemented pan Slow water movement	1.00 1.00 1.00	Very limited Depth to cemented pan Depth to bedrock	1.00 1.00
134: Vitale-----	45	Very limited Slow water movement Depth to bedrock Cobble content Slope	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Cobble content Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 1.00 1.00 0.21
Blackspar-----	35	Very limited Slope Depth to bedrock Slow water movement Cobble content	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Cobble content	1.00 1.00 1.00 1.00

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
135: Whitecloud-----	75	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
136: Whitecloud-----	55	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
Sanfelipe-----	25	Very limited Slow water movement Cobble content	1.00 0.04	Not limited	
137: Zeale-----	70	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 0.94
Zeale, high precipitation-----	25	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 0.94
138: Zeale-----	70	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00
Zeale, high precipitation-----	25	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00
139: Zeale-----	35	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
139: Coalkiln-----	25	Very limited Slope Slow water movement Cobble content	1.00 1.00 0.22	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity Too acid Sodium content	1.00 1.00 0.99 0.99 0.02
Jimbee-----	25	Very limited Slope Depth to bedrock Slow water movement Stone content	1.00 1.00 1.00 0.58	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation	1.00 1.00 1.00
140: Zeebar, cool-----	55	Very limited Slope Slow water movement Stone content	1.00 1.00 0.04	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.21
Zeebar-----	30	Very limited Slope Slow water movement Stone content	1.00 1.00 0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.21
141: Zeebar-----	40	Very limited Slope Slow water movement	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 0.21

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
141: Parvis-----	25	Very limited Slope Slow water movement Stone content	1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 1.00 1.00 0.21
Howcan-----	20	Very limited Slope Depth to bedrock Slow water movement Stone content Cobble content	1.00 1.00 1.00 1.00 0.99	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Large stones on the surface Filtering capacity	1.00 1.00 0.14 0.02 0.01
142: Zer-----	85	Very limited Slow water movement Cobble content	1.00 0.01	Somewhat limited Filtering capacity	0.01
143: Zer-----	85	Very limited Slow water movement Slope Cobble content	1.00 1.00 0.02	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity	1.00 0.22 0.01
144: Zer-----	95	Very limited Slow water movement Slope Cobble content	1.00 1.00 0.02	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity Cobble content	1.00 1.00 0.99 0.02



Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
145: Zer-----	80	Very limited Slope Slow water movement Cobble content	1.00 1.00 0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity	1.00  1.00 0.99
146: Zer-----	45	Very limited Slow water movement Slope Cobble content	1.00 1.00 0.06	Very limited Too steep for surface application Too steep for sprinkler irrigation Filtering capacity	1.00  0.78 0.01
Snowslide-----	40	Very limited Slow water movement Slope	1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Sodium content	1.00  0.78 0.50
147: Zer-----	65	Very limited Slow water movement	1.00	Very limited Filtering capacity	0.99
Whiteknob-----	25	Very limited Slow water movement	1.00	Very limited Filtering capacity	1.00
148: Mooretown-----	45	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 0.60	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 0.95 0.60
Blackfoot-----	25	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Depth to saturated zone	0.95

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate  
Treatment--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
148: Borah-----	20	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 0.60	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 1.00 0.60
149: Drage, cool-----	85	Very limited Slow water movement Slope Cobble content Stone content	1.00 1.00 0.88 0.01	Very limited Too steep for surface application Too steep for sprinkler irrigation Slow water movement	1.00 0.50 0.21
150: Vitale-----	45	Very limited Slope Slow water movement Depth to bedrock Cobble content	1.00 1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler irrigation Depth to bedrock Cobble content Slow water movement	1.00 1.00 1.00 1.00 0.21
Blackspar-----	35	Very limited Slope Depth to bedrock Slow water movement Cobble content	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Too steep for surface application Too steep for sprinkler irrigation Cobble content	1.00 1.00 1.00 1.00

# Rangeland Productivity and Characteristic Plant Communities

(Only the soils that support rangeland vegetation suitable for grazing are listed.)

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
1: Arco-----	DRY MEADOW PONE3-PHAL2 (R012XY023ID)	2,000	1,300	800	Slender wheatgrass----- Sedge----- Alpine timothy----- Basin wildrye----- Inland saltgrass----- Tufted hairgrass----- Baltic rush----- Nebraska sedge----- Nevada bluegrass----- Shrubby cinquefoil----- Western wheatgrass-----	20 15 10 10 10 10 5 5 5 5 5
2: Atom-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
3: Atom-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
4: Atom-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
Splittop-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
5: Bealand-----	SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY (R012XY007ID)	650	350	200	Bluebunch wheatgrass----- Low sagebrush----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Pussytoes----- Twistedleaf rabbitbrush-----	40 25 5 5 5 5 5 5 5
Zeale-----	LOAMY 12-16 ARTRV/FEID- PSSPS (R012XY012ID)	1,600	1,200	800	Bluebunch wheatgrass----- Mountain big sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Idaho fescue----- Sandberg bluegrass----- Arrowleaf balsamroot----- Miscellaneous shrubs----- Prairie Junegrass-----	40 15 10 10 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
6: Blackfoot-----	ALLUVIAL BOTTOM 8-13 ARTRT/ELLAL-LECI4 (R012XY011ID)	1,000	600	400	Wheatgrass----- Basin big sagebrush----- Streambank wheatgrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Basin wildrye----- Bluebunch wheatgrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 25 10 5 5 5 5 5 5 5
7: Bluedome-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
8: Bluedome-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
McCaleb-----	SALINE FLAT <8 ATGA/ACHY (R012XY003ID)	400	300	150	Indian ricegrass----- Fourwing saltbush----- Winterfat----- Needleandthread----- Shadscale saltbush----- Hood's phlox----- Bottlebrush squirreltail-----	20 20 15 10 10 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
9: Bockston-----	LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)	900	700	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Hood's phlox----- Sandberg bluegrass----- Longleaf hawksbeard----- Milkvetch----- Needleandthread----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 30 5 5 5 5 5 5 5 5
10: Breitenbach-----	LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)	900	700	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Hood's phlox----- Sandberg bluegrass----- Longleaf hawksbeard----- Milkvetch----- Needleandthread----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 30 5 5 5 5 5 5 5 5
11: Breitenbach-----	SANDY 8-14 ARTRT/HECOC8- ACHY (R011AY014ID)	900	600	350	Indian ricegrass----- Needleandthread----- Basin big sagebrush----- Miscellaneous perennial forbs-- Sandberg bluegrass----- Bottlebrush squirreltail----- Green rabbitbrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Sand dropseed----- Thickspike wheatgrass-----	20 20 15 10 5 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
11: Stan-----	SANDY 8-14 ARTRT/HECOC8- ACHY (R011AY014ID)	900	600	350	Indian ricegrass----- Needleandthread----- Basin big sagebrush----- Miscellaneous perennial forbs-- Sandberg bluegrass----- Bottlebrush squirreltail----- Green rabbitbrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Sand dropseed----- Thickspike wheatgrass-----	20 20 15 10 5 5 5 5 5 5 5
12: Buist-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
13: Bunting-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
14: Coffee-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
15:						
Coffee-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass-----	25
					Wyoming big sagebrush-----	20
					Thurber needlegrass-----	10
					Miscellaneous perennial forbs--	10
					Miscellaneous perennial grasses	10
					Miscellaneous shrubs-----	10
					Sandberg bluegrass-----	5
					Arrowleaf balsamroot-----	5
					Threetip sagebrush-----	5
Nargon-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass-----	25
					Wyoming big sagebrush-----	20
					Thurber needlegrass-----	10
					Miscellaneous perennial forbs--	10
					Miscellaneous perennial grasses	10
					Miscellaneous shrubs-----	10
					Sandberg bluegrass-----	5
					Arrowleaf balsamroot-----	5
					Threetip sagebrush-----	5
16:						
Coffee-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass-----	25
					Wyoming big sagebrush-----	20
					Thurber needlegrass-----	10
					Miscellaneous perennial forbs--	10
					Miscellaneous perennial grasses	10
					Miscellaneous shrubs-----	10
					Sandberg bluegrass-----	5
					Arrowleaf balsamroot-----	5
					Threetip sagebrush-----	5
Nargon-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass-----	25
					Wyoming big sagebrush-----	20
					Thurber needlegrass-----	10
					Miscellaneous perennial forbs--	10
					Miscellaneous perennial grasses	10
					Miscellaneous shrubs-----	10
					Sandberg bluegrass-----	5
					Arrowleaf balsamroot-----	5
					Threetip sagebrush-----	5



## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
16: Atom-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
17: Cronks-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Dacont-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
19: Cryoborolls-----	STEEP LIMESTONE 12-20 CELE3/PSSPS-FEID (R012XY015ID)	500	300	200	Bluebunch wheatgrass----- Curlleaf mountainmahogany----- Wyoming big sagebrush----- Black sagebrush----- Mountain big sagebrush----- Hood's phlox----- Idaho fescue----- Sandberg bluegrass----- Needleandthread-----	35 15 10 10 10 5 5 5 5
Rubble land-----	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
20: Darlington-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Lesbut-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
22: Deuce-----	SHALLOW STONY 8-12 ARTRW8/PSSPS (R011BY009ID)	650	450	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Nevada bluegrass----- Sandberg bluegrass----- Thurber needlegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 5 5 5 5 5
Nargon-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
Lava flows-----	---	---	---	---	---	---
23: Deuce-----	SHALLOW STONY 8-12 ARTRW8/PSSPS (R011BY009ID)	650	450	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Nevada bluegrass----- Sandberg bluegrass----- Thurber needlegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
23: Nargon-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
Lava flows-----	---	---	---	---	---	---
24: Dickeypeak-----	SALINE LOAMY 8-11 SAVE4/LECI4 (R012XY018ID)	1,200	700	400	Black greasewood----- Basin wildrye----- Basin big sagebrush----- Bottlebrush squirreltail----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Thickspike wheatgrass----- Western wheatgrass-----	40 25 5 5 5 5 5 5 5
Bigrant-----	DRY MEADOW PONE3-PHAL2 (R012XY023ID)	2,000	1,300	800	Slender wheatgrass----- Sedge----- Alpine timothy----- Basin wildrye----- Inland saltgrass----- Tufted hairgrass----- Baltic rush----- Nebraska sedge----- Nevada bluegrass----- Shrubby cinquefoil----- Western wheatgrass-----	20 15 10 10 10 10 5 5 5 5 5
25: Donkehill-----	SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID (R012XY002ID)	750	400	300	Bluebunch wheatgrass----- Low sagebrush----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	50 30 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
26: Dredge-----	LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)	1,500	1,000	600	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous shrubs----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Lupine----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Prairie Junegrass----- Western wheatgrass-----	30 20 10 5 5 5 5 5 5 5 5
27: Elbow-----	GRAVELLY 13-16 ARTR4/PSSPS-FEID (R012XY008ID)	900	500	300	Bluebunch wheatgrass----- Threetip sagebrush----- Idaho fescue----- Nevada bluegrass----- Sandberg bluegrass----- Longleaf hawksbeard----- Miscellaneous perennial forbs-- Prairie Junegrass----- Rabbitbrush-----	45 20 5 5 5 5 5 5 5
28: Fallert-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5
29: Fallert, dry-----	SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY (R012XY007ID)	650	350	200	Bluebunch wheatgrass----- Low sagebrush----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Pussytoes----- Twistedleaf rabbitbrush-----	40 25 5 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
30: Fandow-----	SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY (R012XY007ID)	650	350	200	Bluebunch wheatgrass----- Low sagebrush----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Pussytoes----- Twistedleaf rabbitbrush-----	40 25 5 5 5 5 5 5 5
31: Fulwider, high precipitation-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Fulwider, low precipitation-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5
Fulwider-----	SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY (R012XY007ID)	650	350	200	Bluebunch wheatgrass----- Low sagebrush----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Pussytoes----- Twistedleaf rabbitbrush-----	40 25 5 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
32: Goosebury, high precipitation-----	SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY (R012XY007ID)	650	350	200	Bluebunch wheatgrass----- Low sagebrush----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Pussytoes----- Twistedleaf rabbitbrush-----	40 25 5 5 5 5 5 5 5
33: Goosebury-----	COLD GRAVELLY 8-12 ARNO4/HECOC8 (R012XY040ID)	700	400	200	Black sagebrush----- Needleandthread----- Hood's phlox----- Sandberg bluegrass----- Bluebunch wheatgrass----- Sand dropseed----- Indian ricegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	20 20 10 10 10 10 5 5 5 5
34: Goosebury, low precipitation-----	WINDSWEPT 8-11 ARFR4/POSE (R012XY006ID)	275	100	75	Fringed sagewort----- Sandberg bluegrass----- Nuttall tansy----- Bottlebrush squirreltail----- Needleandthread----- Miscellaneous perennial forbs-- Sagebrush----- Indian ricegrass----- Bluebunch wheatgrass----- Miscellaneous perennial grasses	20 15 10 10 10 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
34: Goosebury, high precipitation-----	SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY (R012XY007ID)	650	350	200	Bluebunch wheatgrass----- Low sagebrush----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Pussytoes----- Twistedleaf rabbitbrush-----	40 25 5 5 5 5 5 5 5
35: Hagenbarth-----	LOAMY 16-22 ARTRV/FEID (R012XY021ID)	1,500	800	500	Idaho fescue----- Mountain big sagebrush----- Bluebunch wheatgrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Mountain snowberry----- Prairie Junegrass----- Rosy pussytoes-----	45 20 10 5 5 5 5 5
Howcan-----	LOAMY 12-16 ARTRV/FEID- PSSPS (R012XY012ID)	1,600	1,200	800	Bluebunch wheatgrass----- Mountain big sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Idaho fescue----- Sandberg bluegrass----- Arrowleaf balsamroot----- Miscellaneous shrubs----- Prairie Junegrass-----	40 15 10 10 5 5 5 5 5
Jonda-----	CLAYEY SOUTH SLOPE 12-16 ARAR8/PSSPS (R012XY029ID)	750	500	300	Low sagebrush----- Sandberg bluegrass----- Bottlebrush squirreltail----- Bluebunch wheatgrass----- Hooker's balsamroot----- Miscellaneous perennial forbs-- Miscellaneous shrubs----- Phlox-----	40 15 15 10 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
36: Hal-----	NORTH SLOPE LOAMY 16-22 ARTRV/FEID (R010AY008ID)	1,400	1,200	1,000	Idaho fescue----- Bluebunch wheatgrass----- Mountain big sagebrush----- Arrowleaf balsamroot----- Common chokecherry----- Lupine----- Mountain snowberry----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Prairie Junegrass-----	20 15 15 5 5 5 5 5 5 5 5
Moonville-----	LOAMY 12-16 ARTRV/FEID- PSSPS (R010AY004ID)	1,100	900	750	Bluebunch wheatgrass----- Mountain big sagebrush----- Thurber needlegrass----- Idaho fescue----- Sandberg bluegrass----- Antelope bitterbrush----- Balsamroot----- Lupine----- Miscellaneous shrubs-----	25 20 10 5 5 5 5 5 5
37: Hondoho-----	LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)	1,500	1,000	600	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous shrubs----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Lupine----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Prairie Junegrass----- Western wheatgrass-----	30 20 10 5 5 5 5 5 5 5 5
38: Howcan-----	LOAMY 12-16 ARTRV/FEID- PSSPS (R012XY012ID)	1,600	1,200	800	Bluebunch wheatgrass----- Mountain big sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Idaho fescue----- Sandberg bluegrass----- Arrowleaf balsamroot----- Miscellaneous shrubs----- Prairie Junegrass-----	40 15 10 10 5 5 5 5 5



## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
38: Hutchley-----	CLAYEY SOUTH SLOPE 12-16 ARAR8/PSSPS (R012XY029ID)	750	500	300	Low sagebrush----- Sandberg bluegrass----- Bottlebrush squirreltail----- Bluebunch wheatgrass----- Hooker's balsamroot----- Miscellaneous perennial forbs-- Miscellaneous shrubs----- Phlox-----	40 15 15 10 5 5 5 5
Rock outcrop-----	---	---	---	---	---	---
39: Howcan-----	LOAMY 12-16 ARTRV/FEID- PSSPS (R012XY012ID)	1,600	1,200	800	Bluebunch wheatgrass----- Mountain big sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Idaho fescue----- Sandberg bluegrass----- Arrowleaf balsamroot----- Miscellaneous shrubs----- Prairie Junegrass-----	40 15 10 10 5 5 5 5 5
Zeebar-----	LOAMY 16-22 ARTRV/FEID (R012XY021ID)	1,500	800	500	Idaho fescue----- Mountain big sagebrush----- Bluebunch wheatgrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Mountain snowberry----- Prairie Junegrass----- Rosy pussytoes-----	45 20 10 5 5 5 5 5
Hutchley-----	CLAYEY SOUTH SLOPE 12-16 ARAR8/PSSPS (R012XY029ID)	750	500	300	Low sagebrush----- Sandberg bluegrass----- Bottlebrush squirreltail----- Bluebunch wheatgrass----- Hooker's balsamroot----- Miscellaneous perennial forbs-- Miscellaneous shrubs----- Phlox-----	40 15 15 10 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
40: Huddle-----	LOAMY 12-16 ARTRT/LECI4 (R011BY007ID)	1,500	1,200	600	Basin wildrye----- Bluebunch wheatgrass----- Idaho fescue----- Wheeler bluegrass----- Arrowleaf balsamroot----- Basin big sagebrush----- Longleaf hawksbeard----- Lupine----- Purple milkwort-----	45 20 5 5 5 5 5 5 5
Moonville-----	LOAMY 12-16 ARTRV/FEID- PSSPS (R010AY004ID)	1,100	900	750	Bluebunch wheatgrass----- Mountain big sagebrush----- Thurber needlegrass----- Idaho fescue----- Sandberg bluegrass----- Antelope bitterbrush----- Balsamroot----- Lupine----- Miscellaneous shrubs-----	25 20 10 5 5 5 5 5 5
41: Ike-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5
Rock outcrop-----	---	---	---	---	---	---
Jimbee-----	SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID (R012XY002ID)	750	400	300	Bluebunch wheatgrass----- Low sagebrush----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	50 30 5 5 5 5
42: Ike-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
42: Simeroi-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5
Rock outcrop-----	---	---	---	---	---	---
43: Inel-----	SHALLOW BREAKS 8-13 JUOS/ARNO4/PSSPS (R012XY022ID)	450	300	150	Bluebunch wheatgrass----- Utah juniper----- Black sagebrush----- Indian ricegrass----- Hood's phlox----- Salmon wildrye-----	30 15 15 10 5 5
Matheson-----	SANDY 8-14 ARTRT/HECOC8- ACHY (R011AY014ID)	900	600	350	Indian ricegrass----- Needleandthread----- Basin big sagebrush----- Miscellaneous perennial forbs-- Sandberg bluegrass----- Bottlebrush squirreltail----- Green rabbitbrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Sand dropseed----- Thickspike wheatgrass-----	20 20 15 10 5 5 5 5 5 5 5
Rock outcrop-----	---	---	---	---	---	---
44: Inel-----	GRAVELLY 7-10 ATCO/SPCR (R012XY041ID)	400	225	150	Shadscale saltbush----- Indian ricegrass----- Sand dropseed----- Hood's phlox----- Sandberg bluegrass----- Bottlebrush squirreltail----- Salmon wildrye----- Winterfat-----	35 20 20 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
44: Slide-----	SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)	600	350	200	Shadscale saltbush----- Indian ricegrass----- Bottlebrush squirreltail----- Needleandthread----- Miscellaneous shrubs----- Sandberg bluegrass----- Bud sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Sand dropseed-----	30 15 10 10 10 5 5 5 5 5
Rock outcrop-----	---	---	---	---	---	---
45: Jimbee-----	SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID (R012XY002ID)	750	400	300	Bluebunch wheatgrass----- Low sagebrush----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	50 30 5 5 5 5
Rock outcrop-----	---	---	---	---	---	---
Ike-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5
46: Jimbee-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
46: Skibo-----	STEEP LIMESTONE 12-20 CELE3/PSSPS-FEID (R012XY015ID)	500	300	200	Bluebunch wheatgrass----- Curlleaf mountainmahogany----- Wyoming big sagebrush----- Black sagebrush----- Mountain big sagebrush----- Hood's phlox----- Idaho fescue----- Sandberg bluegrass----- Needleandthread-----	35 15 10 10 10 5 5 5 5
Ike-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5
47: Justesen-----	LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)	900	700	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Hood's phlox----- Sandberg bluegrass----- Longleaf hawksbeard----- Milkvetch----- Needleandthread----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 30 5 5 5 5 5 5 5 5
Drage-----	LOAMY 12-16 ARTRV/FEID- PSSPS (R012XY012ID)	1,600	1,200	800	Bluebunch wheatgrass----- Mountain big sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Idaho fescue----- Sandberg bluegrass----- Arrowleaf balsamroot----- Miscellaneous shrubs----- Prairie Junegrass-----	40 15 10 10 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
48: Ketchum-----	DOUGLAS FIR 22+ PSME/SYOR2 (R043AY001ID)	1,400	900	500	Pinegrass----- Mountain snowberry----- Miscellaneous perennial forbs-- Elk sedge----- Miscellaneous shrubs----- Douglas-fir----- Idaho fescue----- Bluebunch wheatgrass----- Mallow ninebark----- Miscellaneous perennial grasses	25 15 15 10 10 5 5 5 5 5
Povey-----	NORTH SLOPE LOAMY 16-22 ARTRV/FEID (R010AY008ID)	1,400	1,200	1,000	Idaho fescue----- Bluebunch wheatgrass----- Mountain big sagebrush----- Arrowleaf balsamroot----- Common chokecherry----- Lupine----- Mountain snowberry----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Prairie Junegrass-----	20 15 15 5 5 5 5 5 5 5 5
50: Klug-----	LOAMY 12-16 ARTRV/FEID- PSSPS (R012XY012ID)	1,600	1,200	800	Bluebunch wheatgrass----- Mountain big sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Idaho fescue----- Sandberg bluegrass----- Arrowleaf balsamroot----- Miscellaneous shrubs----- Prairie Junegrass-----	40 15 10 10 5 5 5 5 5
51: Klug-----	SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID (R012XY002ID)	750	400	300	Bluebunch wheatgrass----- Low sagebrush----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	50 30 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
51: Parvis-----	LOAMY 16-22 ARTRV/FEID (R012XY021ID)	1,500	800	500	Idaho fescue----- Mountain big sagebrush----- Bluebunch wheatgrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Mountain snowberry----- Prairie Junegrass----- Rosy pussytoes-----	45 20 10 5 5 5 5 5
52: Lag-----	DOUGLAS-FIR STONY 22+ PSME/CARU (R043AY005ID)	1,400	1,000	600	Pinegrass----- Bluebunch wheatgrass----- Mountain big sagebrush----- Myrtle pachistima----- Miscellaneous shrubs----- Douglas-fir----- Idaho fescue----- Blue wildrye----- Heartleaf arnica----- Longleaf hawksbeard----- Mountain snowberry----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses	20 10 10 10 10 5 5 5 5 5 5 5 5
53: Lavacreek-----	SUBALPINE SLOPE LOAMY 20+ ARTRS2/FEID (R012XY024ID)	1,400	1,200	1,000	Idaho fescue----- Bluebunch wheatgrass----- Subalpine big sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Arrowleaf balsamroot----- Common chokecherry----- Lupine----- Mountain snowberry----- Prairie Junegrass-----	15 15 15 10 10 10 5 5 5 5 5
Dollarhide-----	SHALLOW SUBALPINE 16+ ARART/FEID (R012XY025ID)	650	400	175	Idaho fescue----- Hotsprings sagebrush----- Miscellaneous perennial grasses Miscellaneous perennial forbs-- Bluebunch wheatgrass----- Mountain big sagebrush----- Miscellaneous shrubs-----	35 25 15 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
54: Lavacreek-----	NORTH SLOPE LOAMY 16-22 ARTRV/FEID (R010AY008ID)	1,400	1,200	1,000	Idaho fescue----- Bluebunch wheatgrass----- Mountain big sagebrush----- Arrowleaf balsamroot----- Common chokecherry----- Lupine----- Mountain snowberry----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Prairie Junegrass-----	20 15 15 5 5 5 5 5 5 5 5
Dollarhide-----	CLAYEY NORTH 16-20 ARAR8/FEID (R010AY011ID)	750	600	400	Longleaf hawksbeard----- Prairie Junegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Idaho fescue----- Arrowleaf balsamroot----- Bluebunch wheatgrass----- Low sagebrush----- Miscellaneous shrubs-----	30 20 10 10 5 5 5 5 5
Grassycone-----	QUAKING ASPEN 20+ POTR5 (R010AY016ID)	800	550	350	Pinegrass----- Mountain brome----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Quaking aspen----- Idaho fescue----- Antelope bitterbrush----- Biscuitroot----- Bluebunch wheatgrass----- Cinquefoil----- Mountain big sagebrush----- Miscellaneous shrubs-----	25 10 10 10 10 5 5 5 5 5 5 5



## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
55: Lavacreek-----	NORTH SLOPE LOAMY 16-22 ARTRV/FEID (R010AY008ID)	1,400	1,200	1,000	Idaho fescue----- Bluebunch wheatgrass----- Mountain big sagebrush----- Arrowleaf balsamroot----- Common chokecherry----- Lupine----- Mountain snowberry----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Prairie Junegrass-----	20 15 15 5 5 5 5 5 5 5 5
Vitale-----	SOUTH SLOPE GRAVELLY 12-16 ARTRV/PSSPS (R010AY009ID)	1,100	800	450	Bluebunch wheatgrass----- Mountain big sagebrush----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Basin wildrye----- Lupine----- Mountain snowberry----- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 25 5 5 5 5 5 5 5 5
57: Lava flows-----	---	---	---	---	---	---
Cinderhurst-----	LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)	1,500	1,000	600	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous shrubs----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Lupine----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Prairie Junegrass----- Western wheatgrass-----	30 20 10 5 5 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
58: Lava flows-----	---	---	---	---	---	---
Pingree-----	FRACTURED LOAMY 8-16 ARTRW8/PSSPS (R011BY005ID)	500	275	150	Wyoming big sagebrush----- Sandberg bluegrass----- Bottlebrush squirreltail----- Thurber needlegrass----- Antelope bitterbrush----- Bluebunch wheatgrass----- Annual forbs----- Lupine----- Miscellaneous shrubs----- Phlox----- Rabbitbrush----- Miscellaneous perennial forbs-- Granite pricklygilia-----	30 15 10 5 5 5 5 5 5 5 5 4 1
59: Leatherman-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5
Adek, dry-----	WINDSWEPT 8-11 ARFR4/POSE (R012XY006ID)	275	100	75	Fringed sagewort----- Sandberg bluegrass----- Nuttall tansy----- Bottlebrush squirreltail----- Needleandthread----- Miscellaneous perennial forbs-- Sagebrush----- Indian ricegrass----- Bluebunch wheatgrass----- Miscellaneous perennial grasses	20 15 10 10 10 10 10 5 5 5
Adek-----	SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY (R012XY007ID)	650	350	200	Bluebunch wheatgrass----- Low sagebrush----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Pussytoes----- Twistedleaf rabbitbrush-----	40 25 5 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
60: Leatherman-----	SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY (R012XY007ID)	650	350	200	Bluebunch wheatgrass----- Low sagebrush----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Pussytoes----- Twistedleaf rabbitbrush-----	40 25 5 5 5 5 5 5 5
Blue dome-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
61: Malm-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
Bondfarm-----	SHALLOW STONY 8-12 ARTRW8/PSSPS (R011BY009ID)	650	450	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Nevada bluegrass----- Sandberg bluegrass----- Thurber needlegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
61: Matheson-----	SANDY 8-14 ARTRT/HECOC8- ACHY (R011AY014ID)	900	600	350	Indian ricegrass----- Needleandthread----- Basin big sagebrush----- Miscellaneous perennial forbs-- Sandberg bluegrass----- Bottlebrush squirreltail----- Green rabbitbrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Sand dropseed----- Thickspike wheatgrass-----	20 20 15 10 5 5 5 5 5 5 5
62: Matheson-----	SANDY 8-14 ARTRT/HECOC8- ACHY (R011AY014ID)	900	600	350	Indian ricegrass----- Needleandthread----- Basin big sagebrush----- Miscellaneous perennial forbs-- Sandberg bluegrass----- Bottlebrush squirreltail----- Green rabbitbrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Sand dropseed----- Thickspike wheatgrass-----	20 20 15 10 5 5 5 5 5 5 5
Grassy Butte-----	SANDY 8-14 ARTRT/HECOC8- ACHY (R011AY014ID)	900	600	350	Indian ricegrass----- Needleandthread----- Basin big sagebrush----- Miscellaneous perennial forbs-- Sandberg bluegrass----- Bottlebrush squirreltail----- Green rabbitbrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Sand dropseed----- Thickspike wheatgrass-----	20 20 15 10 5 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
64: McCarey-----	LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)	1,500	1,000	600	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous shrubs----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Lupine----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Prairie Junegrass----- Western wheatgrass-----	30 20 10 5 5 5 5 5 5 5 5
Beartrap-----	LOAMY BOTTOM 8-14 ARTRT/LECI4 (R011XY015ID)	1,100	950	750	Basin wildrye----- Basin big sagebrush----- Bluebunch wheatgrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Annual forbs----- Gray rabbitbrush----- Needlegrass-----	25 20 20 10 10 5 5 5
65: McCarey-----	LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)	1,500	1,000	600	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous shrubs----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Lupine----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Prairie Junegrass----- Western wheatgrass-----	30 20 10 5 5 5 5 5 5 5 5
Beartrap-----	LOAMY BOTTOM 8-14 ARTRT/LECI4 (R011XY015ID)	1,100	950	750	Basin wildrye----- Basin big sagebrush----- Bluebunch wheatgrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Annual forbs----- Gray rabbitbrush----- Needlegrass-----	25 20 20 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
66: McCarey-----	LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)	1,500	1,000	600	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous shrubs----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Lupine----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Prairie Junegrass----- Western wheatgrass-----	30 20 10 5 5 5 5 5 5 5 5
Beartrap-----	LOAMY BOTTOM 8-14 ARTRT/LECI4 (R011XY015ID)	1,100	950	750	Basin wildrye----- Basin big sagebrush----- Bluebunch wheatgrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Annual forbs----- Gray rabbitbrush----- Needlegrass-----	25 20 20 10 10 5 5 5
Rock outcrop-----	---	---	---	---	---	---
67: McCarey-----	LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)	1,500	1,000	600	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous shrubs----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Lupine----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Prairie Junegrass----- Western wheatgrass-----	30 20 10 5 5 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
67: Molyneux-----	SANDY LOAM 12-16 ARTRT/PSSPS (R010AY022ID)	1,100	900	750	Basin big sagebrush----- Bluebunch wheatgrass----- Basin wildrye----- Thurber needlegrass----- Wheeler bluegrass----- Arrowleaf balsamroot----- Bottlebrush squirreltail----- Lupine----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	25 25 10 5 5 5 5 5 5 5 5
Lava flows-----	---	---	---	---	---	---
68: McCarey-----	LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)	1,500	1,000	600	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous shrubs----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Lupine----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Prairie Junegrass----- Western wheatgrass-----	30 20 10 5 5 5 5 5 5 5 5
Splittop-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
Lava flows-----	---	---	---	---	---	---

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
69: McCarey-----	LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)	1,500	1,000	600	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous shrubs----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Lupine----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Prairie Junegrass----- Western wheatgrass-----	30 20 10 5 5 5 5 5 5 5 5
Vickton-----	LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)	1,500	1,000	600	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous shrubs----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Lupine----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Prairie Junegrass----- Western wheatgrass-----	30 20 10 5 5 5 5 5 5 5 5
Lava flows-----	---	---	---	---	---	---
72: Menan-----	LOAMY 8-12 ARTRT/LECT4 (R011BY006ID)	1,300	850	500	Basin wildrye----- Basin big sagebrush----- Bluebunch wheatgrass----- Thurber needlegrass----- Arrowleaf balsamroot----- Lupine----- Needleandthread----- Threetip sagebrush-----	25 15 10 5 5 5 5 5
73: Mogg-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5



## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
73: Shagel-----	SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID (R012XY002ID)	750	400	300	Bluebunch wheatgrass----- Low sagebrush----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	50 30 5 5 5 5
74: Mooretown-----	DRY MEADOW PONE3-PHAL2 (R012XY023ID)	2,000	1,300	800	Slender wheatgrass----- Sedge----- Alpine timothy----- Basin wildrye----- Inland saltgrass----- Tufted hairgrass----- Baltic rush----- Nebraska sedge----- Nevada bluegrass----- Shrubby cinquefoil----- Western wheatgrass-----	20 15 10 10 10 10 5 5 5 5 5
Borah-----	MEADOW DECA18/CANE2 (R012XY038ID)	4,500	3,600	2,500	Sedge----- Nebraska sedge----- Tufted hairgrass----- Nevada bluegrass----- Woods' rose----- Cinquefoil----- Lupine----- Western wheatgrass----- Willow----- Yarrow-----	25 20 20 5 5 5 5 5 5 5
75: Mooretown, drained-----	ALLUVIAL BOTTOM 8-13 ARTRT/ELLAL-LECI4 (R012XY011ID)	1,000	600	400	Wheatgrass----- Basin big sagebrush----- Streambank wheatgrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Basin wildrye----- Bluebunch wheatgrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 25 10 5 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
75: Borco-----	ALLUVIAL BOTTOM 8-13 ARTRT/ELLAL-LECI4 (R012XY011ID)	1,000	600	400	Wheatgrass----- Basin big sagebrush----- Streambank wheatgrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Basin wildrye----- Bluebunch wheatgrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 25 10 5 5 5 5 5 5 5
76: Nargon-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
Atom-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
Techicknot-----	LOAMY 12-16 ARTRW8/PSSPS (R011BY010ID)	1,500	1,000	600	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous shrubs----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Lupine----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Prairie Junegrass----- Western wheatgrass-----	30 20 10 5 5 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
77: Nargon-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
Deuce-----	SHALLOW STONY 8-12 ARTRW8/PSSPS (R011BY009ID)	650	450	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Nevada bluegrass----- Sandberg bluegrass----- Thurber needlegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 5 5 5 5 5
Lava flows-----	---	---	---	---	---	---
78: Nitchly-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5
79: Nurkey-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Dacont-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
80: Nurkey-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Dacont-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
81: Nurkey-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Nurkey, low precipitation-----	GRAVELLY 13-16 ARTR4/PSSPS-FEID (R012XY008ID)	900	500	300	Bluebunch wheatgrass----- Threetip sagebrush----- Idaho fescue----- Nevada bluegrass----- Sandberg bluegrass----- Longleaf hawksbeard----- Miscellaneous perennial forbs-- Prairie Junegrass----- Rabbitbrush-----	45 20 5 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
82: Calclids-----	STEEP LIMESTONE 12-20 CELE3/PSSPS-FEID (R012XY015ID)	500	300	200	Bluebunch wheatgrass----- Curlleaf mountainmahogany----- Wyoming big sagebrush----- Black sagebrush----- Mountain big sagebrush----- Hood's phlox----- Idaho fescue----- Sandberg bluegrass----- Needleandthread-----	35 15 10 10 10 5 5 5 5
Rubble land-----	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---
83: Packmo-----	COLD GRAVELLY 8-12 ARNO4/HECOC8 (R012XY040ID)	700	400	200	Black sagebrush----- Needleandthread----- Hood's phlox----- Sandberg bluegrass----- Bluebunch wheatgrass----- Sand dropseed----- Indian ricegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	20 20 10 10 10 10 5 5 5 5
Snowslide-----	SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)	600	350	200	Shadscale saltbush----- Indian ricegrass----- Bottlebrush squirreltail----- Needleandthread----- Miscellaneous shrubs----- Sandberg bluegrass----- Bud sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Sand dropseed-----	30 15 10 10 10 5 5 5 5 5
84: Paint-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
84: Fallert-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5
85: Paint-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Whitecloud-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
86: Pancheri-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
87: Pancheri-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
87: Polatis-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
90: Portino-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
Thornock-----	SHALLOW LOAMY 8-12 ARTRT/PSSPS (R011AY003ID)	800	600	350	Basin big sagebrush----- Bluebunch wheatgrass----- Thurber needlegrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Longleaf hawksbeard----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 30 10 5 5 5 5 5 5
91: Riverlost-----	CLAYEY SOUTH SLOPE 12-16 ARAR8/PSSPS (R012XY029ID)	750	500	300	Low sagebrush----- Sandberg bluegrass----- Bottlebrush squirreltail----- Bluebunch wheatgrass----- Hooker's balsamroot----- Miscellaneous perennial forbs-- Miscellaneous shrubs----- Phlox-----	40 15 15 10 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
91: Frymire-----	LOAMY 12-16 ARTRV/FEID- PSSPS (R012XY012ID)	1,600	1,200	800	Bluebunch wheatgrass----- Mountain big sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Idaho fescue----- Sandberg bluegrass----- Arrowleaf balsamroot----- Miscellaneous shrubs----- Prairie Junegrass-----	40 15 10 10 5 5 5 5 5
92: Riverlost-----	CLAYEY SOUTH SLOPE 12-16 ARAR8/PSSPS (R012XY029ID)	750	500	300	Low sagebrush----- Sandberg bluegrass----- Bottlebrush squirreltail----- Bluebunch wheatgrass----- Hooker's balsamroot----- Miscellaneous perennial forbs-- Miscellaneous shrubs----- Phlox-----	40 15 15 10 5 5 5 5
Grouseville-----	LOAMY 16-22 ARTRV/FEID (R012XY021ID)	1,500	800	500	Idaho fescue----- Mountain big sagebrush----- Bluebunch wheatgrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Mountain snowberry----- Prairie Junegrass----- Rosy pussytoes-----	45 20 10 5 5 5 5 5
93: Riverlost-----	CLAYEY SOUTH SLOPE 12-16 ARAR8/PSSPS (R012XY029ID)	750	500	300	Low sagebrush----- Sandberg bluegrass----- Bottlebrush squirreltail----- Bluebunch wheatgrass----- Hooker's balsamroot----- Miscellaneous perennial forbs-- Miscellaneous shrubs----- Phlox-----	40 15 15 10 5 5 5 5



## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
93: Soen-----	LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)	900	700	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Hood's phlox----- Sandberg bluegrass----- Longleaf hawksbeard----- Milkvetch----- Needleandthread----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 30 5 5 5 5 5 5 5 5
94: Rubble land-----	---	---	---	---	---	---
Milligan-----	SOUTH SLOPE GRAVELLY 12-16 ARTRV/PSSPS (R010AY009ID)	1,100	800	450	Bluebunch wheatgrass----- Mountain big sagebrush----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Basin wildrye----- Lupine----- Mountain snowberry----- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 25 5 5 5 5 5 5 5 5
95: Sanfelipe-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
96: Sanfelipe-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
97: Sanfelipe-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
McCaleb-----	SALINE FLAT <8 ATGA/ACHY (R012XY003ID)	400	300	150	Indian ricegrass----- Fourwing saltbush----- Winterfat----- Needleandthread----- Shadscale saltbush----- Hood's phlox----- Bottlebrush squirreltail-----	20 20 15 10 10 5 5
98: Sanfelipe-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Simeroi-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
99: Simeroi-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
100: Simeroi-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
102: Simeroi, cool-----	SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY (R012XY007ID)	650	350	200	Bluebunch wheatgrass----- Low sagebrush----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Pussytoes----- Twistedleaf rabbitbrush-----	40 25 5 5 5 5 5 5 5
103: Simeroi, dry-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5
104: Simeroi-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Paint-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
105: Simeroi, dry-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5
Simeroi-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
106: Simeroi-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Sparmo-----	LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)	900	700	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Hood's phlox----- Sandberg bluegrass----- Longleaf hawksbeard----- Milkvetch----- Needleandthread----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 30 5 5 5 5 5 5 5 5
107: Simeroi-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
107: Slide-----	SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)	600	350	200	Shadscale saltbush----- Indian ricegrass----- Bottlebrush squirreltail----- Needleandthread----- Miscellaneous shrubs----- Sandberg bluegrass----- Bud sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Sand dropseed-----	30 15 10 10 10 5 5 5 5 5
McCaleb-----	SALINE FLAT <8 ATGA/ACHY (R012XY003ID)	400	300	150	Indian ricegrass----- Fourwing saltbush----- Winterfat----- Needleandthread----- Shadscale saltbush----- Hood's phlox----- Bottlebrush squirreltail-----	20 20 15 10 10 5 5
108: Simeroi-----	SHALLOW GRAVELLY LOAM 8-12 ARAR8/PSSPS-ACHY (R012XY007ID)	650	350	200	Bluebunch wheatgrass----- Low sagebrush----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Pussytoes----- Twistedleaf rabbitbrush-----	40 25 5 5 5 5 5 5 5
Bealand-----	LIMEY GRAVELLY 8-13 ARNO4/PSSPS (R012XY001ID)	700	400	300	Bluebunch wheatgrass----- Black sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass-----	40 25 10 10 10 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
109: Slide-----	SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)	600	350	200	Shadscale saltbush----- Indian ricegrass----- Bottlebrush squirreltail----- Needleandthread----- Miscellaneous shrubs----- Sandberg bluegrass----- Bud sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Sand dropseed-----	30 15 10 10 10 5 5 5 5 5
110: Snowslide-----	SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)	600	350	200	Shadscale saltbush----- Indian ricegrass----- Bottlebrush squirreltail----- Needleandthread----- Miscellaneous shrubs----- Sandberg bluegrass----- Bud sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Sand dropseed-----	30 15 10 10 10 5 5 5 5 5
111: Snowslide-----	SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)	600	350	200	Shadscale saltbush----- Indian ricegrass----- Bottlebrush squirreltail----- Needleandthread----- Miscellaneous shrubs----- Sandberg bluegrass----- Bud sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Sand dropseed-----	30 15 10 10 10 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
112: Snowslide-----	SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)	600	350	200	Shadscale saltbush----- Indian ricegrass----- Bottlebrush squirreltail----- Needleandthread----- Miscellaneous shrubs----- Sandberg bluegrass----- Bud sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Sand dropseed-----	30 15 10 10 10 5 5 5 5 5
Zer-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
113: Snowslide-----	SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)	600	350	200	Shadscale saltbush----- Indian ricegrass----- Bottlebrush squirreltail----- Needleandthread----- Miscellaneous shrubs----- Sandberg bluegrass----- Bud sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Sand dropseed-----	30 15 10 10 10 5 5 5 5 5
Zer-----	WINDSWEPT 8-11 ARFR4/POSE (R012XY006ID)	275	100	75	Fringed sagewort----- Sandberg bluegrass----- Nuttall tansy----- Bottlebrush squirreltail----- Needleandthread----- Miscellaneous perennial forbs-- Sagebrush----- Indian ricegrass----- Bluebunch wheatgrass----- Miscellaneous perennial grasses	20 15 10 10 10 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
113: Snowslide, low precipitation-----	SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)	275	100	75	Fringed sagewort----- Sandberg bluegrass----- Nuttall tansy----- Bottlebrush squirreltail----- Miscellaneous perennial forbs-- Sagebrush----- Indian ricegrass----- Miscellaneous perennial grasses Miscellaneous shrubs----- Winterfat-----	20 15 10 10 10 10 5 5 5 5
114: Soen-----	LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)	900	700	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Hood's phlox----- Sandberg bluegrass----- Longleaf hawksbeard----- Milkvetch----- Needleandthread----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 30 5 5 5 5 5 5 5 5
115: Soen-----	LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)	900	700	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Hood's phlox----- Sandberg bluegrass----- Longleaf hawksbeard----- Milkvetch----- Needleandthread----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 30 5 5 5 5 5 5 5 5



## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
115: Justesen-----	SANDY LOAM 12-16 ARTRT/PSSPS (R010AY022ID)	1,100	900	750	Basin big sagebrush----- Bluebunch wheatgrass----- Basin wildrye----- Thurber needlegrass----- Wheeler bluegrass----- Arrowleaf balsamroot----- Bottlebrush squirreltail----- Lupine----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	25 25 10 5 5 5 5 5 5 5 5
116: Sparmo-----	LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)	900	700	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Hood's phlox----- Sandberg bluegrass----- Longleaf hawksbeard----- Milkvetch----- Needleandthread----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 30 5 5 5 5 5 5 5 5
117: Sparmo-----	LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)	900	700	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Hood's phlox----- Sandberg bluegrass----- Longleaf hawksbeard----- Milkvetch----- Needleandthread----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 30 5 5 5 5 5 5 5 5
Bluedome-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
118: Sparmo-----	LOAMY 8-12 ARTRW8/PSSPS (R012XY032ID)	900	700	300	Wyoming big sagebrush----- Bluebunch wheatgrass----- Hood's phlox----- Sandberg bluegrass----- Longleaf hawksbeard----- Milkvetch----- Needleandthread----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 30 5 5 5 5 5 5 5 5
Zer-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
119: Splittop-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
Atomic-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
120: Splittop-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
Coffee-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
121: Stan-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
123: Stan, loamy fine sand surface-----	SANDY 8-14 ARTRT/HECOC8- ACHY (R011AY014ID)	900	600	350	Indian ricegrass----- Needleandthread----- Basin big sagebrush----- Miscellaneous perennial forbs-- Sandberg bluegrass----- Bottlebrush squirreltail----- Green rabbitbrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Sand dropseed----- Thickspike wheatgrass-----	20 20 15 10 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
123: Stan-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
125: Techick-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Soelberg-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
126: Techick-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
126: Soelberg-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Lesbut-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
127: Techicknot-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
Atom-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
127: Nargon-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
128: Tenno-----	SHALLOW LOAMY 8-12 ARTRT/PSSPS (R011AY003ID)	800	600	350	Basin big sagebrush----- Bluebunch wheatgrass----- Thurber needlegrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Longleaf hawksbeard----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 30 10 5 5 5 5 5 5
Splittop-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
Lava flows-----	---	---	---	---	---	---
129: Tenno-----	SHALLOW LOAMY 8-12 ARTRT/PSSPS (R011AY003ID)	800	600	350	Basin big sagebrush----- Bluebunch wheatgrass----- Thurber needlegrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Longleaf hawksbeard----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 30 10 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
129: Splittop-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
McCarey-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
130: Thornock-----	SHALLOW LOAMY 8-12 ARTRW8/PSSPS (R011XY004ID)	650	500	275	Wyoming big sagebrush----- Bluebunch wheatgrass----- Thurber needlegrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Longleaf hawksbeard----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 25 10 5 5 5 5 5 5
Portino-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
131: Thornock-----	SHALLOW LOAMY 8-12 ARTRW8/PSSPS (R011XY004ID)	650	500	275	Wyoming big sagebrush----- Bluebunch wheatgrass----- Thurber needlegrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Longleaf hawksbeard----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 25 10 5 5 5 5 5 5
Portino-----	LOAMY 8-12 ARTRW8/PSSPS (R011BY001ID)	1,100	700	400	Bluebunch wheatgrass----- Wyoming big sagebrush----- Thurber needlegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Sandberg bluegrass----- Arrowleaf balsamroot----- Threetip sagebrush-----	25 20 10 10 10 10 5 5 5
134: Vitale-----	SOUTH SLOPE GRAVELLY 12-16 ARTRV/PSSPS (R010AY009ID)	1,100	800	450	Bluebunch wheatgrass----- Mountain big sagebrush----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Basin wildrye----- Lupine----- Mountain snowberry----- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 25 5 5 5 5 5 5 5 5
Blackspar-----	SHALLOW STONY LOAM 8-16 ARAR8/PSSPS (R010AY007ID)	400	250	200	Low sagebrush----- Sandberg bluegrass----- Bluebunch wheatgrass----- Hood's phlox----- Thurber needlegrass----- Bottlebrush squirreltail----- Annual frobs----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	25 20 20 5 5 5 5 5 5 5



## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
135: Whitecloud-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
136: Whitecloud-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Sanfelipe-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
137: Zeale-----	SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID (R012XY002ID)	750	400	300	Bluebunch wheatgrass----- Low sagebrush----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	50 30 5 5 5 5
Zeale, high precipitation-----	GRAVELLY 13-16 ARTR4/PSSPS-FEID (R012XY008ID)	900	500	300	Bluebunch wheatgrass----- Threetip sagebrush----- Idaho fescue----- Nevada bluegrass----- Sandberg bluegrass----- Longleaf hawksbeard----- Miscellaneous perennial forbs-- Prairie Junegrass----- Rabbitbrush-----	45 20 5 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
138: Zeale-----	SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID (R012XY002ID)	750	400	300	Bluebunch wheatgrass----- Low sagebrush----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	50 30 5 5 5 5
Zeale, high precipitation-----	GRAVELLY 13-16 ARTR4/PSSPS-FEID (R012XY008ID)	900	500	300	Bluebunch wheatgrass----- Threetip sagebrush----- Idaho fescue----- Nevada bluegrass----- Sandberg bluegrass----- Longleaf hawksbeard----- Miscellaneous perennial forbs-- Prairie Junegrass----- Rabbitbrush-----	45 20 5 5 5 5 5 5 5
139: Zeale-----	LOAMY 16-22 ARTRV/FEID (R012XY021ID)	1,500	800	500	Idaho fescue----- Mountain big sagebrush----- Bluebunch wheatgrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Mountain snowberry----- Prairie Junegrass----- Rosy pussytoes-----	45 20 10 5 5 5 5 5
Coalkiln-----	DOUGLAS-FIR STONY 22+ PSME/CARU (R043AY005ID)	1,400	1,000	600	Pinegrass----- Bluebunch wheatgrass----- Mountain big sagebrush----- Myrtle pachistima----- Miscellaneous shrubs----- Douglas-fir----- Idaho fescue----- Blue wildrye----- Heartleaf arnica----- Longleaf hawksbeard----- Mountain snowberry----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses	20 10 10 10 10 5 5 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
139: Jimbee-----	STEEP LIMESTONE 12-20 CELE3/PSSPS-FEID (R012XY015ID)	500	300	200	Bluebunch wheatgrass----- Curlleaf mountainmahogany----- Wyoming big sagebrush----- Black sagebrush----- Mountain big sagebrush----- Hood's phlox----- Idaho fescue----- Sandberg bluegrass----- Needleandthread-----	35 15 10 10 10 5 5 5 5
140: Zeebar, cool-----	SHALLOW GRAVELLY LOAM 11-13 ARAR8/PSSPS-FEID (R012XY002ID)	750	400	300	Bluebunch wheatgrass----- Low sagebrush----- Sandberg bluegrass----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	50 30 5 5 5 5
Zeebar-----	LOAMY 16-22 ARTRV/FEID (R012XY021ID)	1,500	800	500	Idaho fescue----- Mountain big sagebrush----- Bluebunch wheatgrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Mountain snowberry----- Prairie Junegrass----- Rosy pussytoes-----	45 20 10 5 5 5 5 5
141: Zeebar-----	LOAMY 16-22 ARTRV/FEID (R012XY021ID)	1,500	800	500	Idaho fescue----- Mountain big sagebrush----- Bluebunch wheatgrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Mountain snowberry----- Prairie Junegrass----- Rosy pussytoes-----	45 20 10 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
141: Parvis-----	LOAMY 12-16 ARTRV/FEID- PSSPS (R012XY012ID)	1,600	1,200	800	Bluebunch wheatgrass----- Mountain big sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Idaho fescue----- Sandberg bluegrass----- Arrowleaf balsamroot----- Miscellaneous shrubs----- Prairie Junegrass-----	40 15 10 10 5 5 5 5 5
Howcan-----	LOAMY 16-22 ARTRV/FEID (R012XY021ID)	1,500	800	500	Idaho fescue----- Mountain big sagebrush----- Bluebunch wheatgrass----- Sandberg bluegrass----- Arrowleaf balsamroot----- Mountain snowberry----- Prairie Junegrass----- Rosy pussytoes-----	45 20 10 5 5 5 5 5
142: Zer-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
143: Zer-----	SALINE LOAMY 8-11 SAVE4/LECI4 (R012XY018ID)	1,200	700	400	Black greasewood----- Basin wildrye----- Basin big sagebrush----- Bottlebrush squirreltail----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs----- Thickspike wheatgrass----- Western wheatgrass-----	40 25 5 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
144: Zer-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
145: Zer-----	WINDSWEPT 8-11 ARFR4/POSE (R012XY006ID)	275	100	75	Fringed sagewort----- Sandberg bluegrass----- Nuttall tansy----- Bottlebrush squirreltail----- Needleandthread----- Miscellaneous perennial forbs-- Sagebrush----- Indian ricegrass----- Bluebunch wheatgrass----- Miscellaneous perennial grasses	20 15 10 10 10 10 10 5 5 5
146: Zer-----	GRAVELLY LOAM 8-12 ARTRW8/PSSPS (R012XY004ID)	650	400	250	Bluebunch wheatgrass----- Wyoming big sagebrush----- Miscellaneous perennial grasses Miscellaneous shrubs----- Hood's phlox----- Sandberg bluegrass----- Miscellaneous perennial forbs--	45 20 10 10 5 5 5
Snowslide-----	SALINE GRAVELLY 7-9 ATCO/ACHY-HECOC8 (R012XY009ID)	600	350	200	Shadscale saltbush----- Indian ricegrass----- Bottlebrush squirreltail----- Needleandthread----- Miscellaneous shrubs----- Sandberg bluegrass----- Bud sagebrush----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Sand dropseed-----	30 15 10 10 10 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
148: Mooretown-----	DRY MEADOW PONE3-PHAL2 (R012XY023ID)	2,000	1,300	800	Slender wheatgrass----- Sedge----- Alpine timothy----- Basin wildrye----- Inland saltgrass----- Tufted hairgrass----- Baltic rush----- Nebraska sedge----- Nevada bluegrass----- Shrubby cinquefoil----- Western wheatgrass-----	20 15 10 10 10 10 5 5 5 5 5
Blackfoot-----	DRY MEADOW PONE3-PHAL2 (R012XY023ID)	2,000	1,300	800	Slender wheatgrass----- Sedge----- Alpine timothy----- Basin wildrye----- Inland saltgrass----- Tufted hairgrass----- Baltic rush----- Nebraska sedge----- Nevada bluegrass----- Shrubby cinquefoil----- Western wheatgrass-----	20 15 10 10 10 10 5 5 5 5 5
Borah-----	MEADOW DECA18/CANE2 (R012XY038ID)	4,500	3,600	2,500	Sedge----- Nebraska sedge----- Tufted hairgrass----- Nevada bluegrass----- Woods' rose----- Cinquefoil----- Lupine----- Western wheatgrass----- Willow----- Yarrow-----	25 20 20 5 5 5 5 5 5 5
149: Drage, cool-----	LOAMY 12-16 ARTRV/FEID- PSSPS (R010AY004ID)	1,100	900	750	Bluebunch wheatgrass----- Mountain big sagebrush----- Thurber needlegrass----- Idaho fescue----- Sandberg bluegrass----- Antelope bitterbrush----- Balsamroot----- Lupine----- Miscellaneous shrubs-----	25 20 10 5 5 5 5 5 5

## Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
150: Vitale-----	SOUTH SLOPE GRAVELLY 12-16 ARTRV/PSSPS (R010AY009ID)	1,100	800	450	Bluebunch wheatgrass----- Mountain big sagebrush----- Nevada bluegrass----- Antelope bitterbrush----- Arrowleaf balsamroot----- Basin wildrye----- Lupine----- Mountain snowberry----- Miscellaneous perennial grasses Miscellaneous shrubs-----	30 25 5 5 5 5 5 5 5 5
Blackspar-----	SHALLOW STONY LOAM 8-16 ARAR8/PSSPS (R010AY007ID)	400	250	200	Low sagebrush----- Sandberg bluegrass----- Bluebunch wheatgrass----- Hood's phlox----- Thurber needlegrass----- Bottlebrush squirreltail----- Annual forbs----- Miscellaneous perennial forbs-- Miscellaneous perennial grasses Miscellaneous shrubs-----	25 20 20 5 5 5 5 5 5 5

## Camp Areas, Picnic Areas, and Playgrounds

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1: Arco-----	85	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
2: Atom-----	80	Very limited Sodium content Dusty Slow water movement	1.00 0.50 0.21	Very limited Sodium content Dusty Slow water movement	1.00 0.50 0.21	Very limited Sodium content Dusty Slow water movement	1.00 0.50 0.21
3: Atom-----	85	Very limited Sodium content Dusty Slow water movement	1.00 0.50 0.21	Very limited Sodium content Dusty Slow water movement	1.00 0.50 0.21	Very limited Sodium content Slope Dusty Slow water movement	1.00 1.00 0.50 0.21
4: Atom-----	50	Very limited Sodium content Dusty Slow water movement	1.00 0.50 0.21	Very limited Sodium content Dusty Slow water movement	1.00 0.50 0.21	Very limited Sodium content Dusty Slow water movement Slope	1.00 0.50 0.21 0.12
Splittop-----	40	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Dusty Depth to bedrock Slope	0.56 0.50 0.16 0.12
5: Bealand-----	60	Very limited Slope Gravel content	1.00 0.26	Very limited Slope Gravel content	1.00 0.26	Very limited Gravel content Slope	1.00 1.00
Zeale-----	25	Very limited Slope Gravel content	1.00 0.19	Very limited Slope Gravel content	1.00 0.19	Very limited Slope Gravel content	1.00 1.00
6: Blackfoot-----	85	Somewhat limited Depth to saturated zone	0.20	Somewhat limited Depth to saturated zone	0.10	Somewhat limited Depth to saturated zone	0.20
7: Bluedome-----	80	Somewhat limited Dusty Depth to cemented pan	0.50 0.06	Somewhat limited Dusty Depth to cemented pan	0.50 0.06	Somewhat limited Slope Dusty Gravel content Depth to bedrock Depth to cemented pan	0.50 0.50 0.44 0.06 0.06



## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8: Bluedome-----	50	Somewhat limited Depth to cemented pan Dusty	0.65  0.50	Somewhat limited Depth to cemented pan Dusty	0.65  0.50	Somewhat limited Depth to bedrock Depth to cemented pan Slope Dusty Gravel content	0.65 0.64  0.50 0.50 0.44
McCaleb-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty Gravel content	0.50 0.50 0.44
9: Bockston-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
10: Breitenbach-----	80	Somewhat limited Gravel content	0.70	Somewhat limited Gravel content	0.70	Very limited Gravel content Slope	1.00 0.12
11: Breitenbach-----	65	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Somewhat limited Gravel content Too sandy Slope	0.96 0.79 0.12
Stan-----	25	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy Slope	0.37 0.12
12: Buist-----	90	Somewhat limited Gravel content	0.95	Somewhat limited Gravel content	0.95	Very limited Gravel content Slope	1.00 1.00
13: Bunting-----	95	Not limited		Not limited		Somewhat limited Gravel content	0.97
14: Coffee-----	80	Very limited Sodium content Salinity Dusty	1.00 0.50 0.50	Very limited Sodium content Salinity Dusty	1.00 0.50 0.50	Very limited Sodium content Salinity Dusty Slope	1.00 0.50 0.50 0.12
15: Coffee-----	45	Very limited Sodium content Slope Salinity Dusty	1.00 0.63 0.50 0.50	Very limited Sodium content Slope Salinity Dusty	1.00 0.63 0.50 0.50	Very limited Sodium content Slope Salinity Dusty	1.00 1.00 0.50 0.50
Nargon-----	30	Somewhat limited Slope Dusty	0.63 0.50	Somewhat limited Slope Dusty	0.63 0.50	Very limited Slope Depth to bedrock Dusty	1.00 0.97 0.50

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16: Coffee-----	30	Very limited Sodium content Salinity Dusty	1.00 0.50 0.50	Very limited Sodium content Salinity Dusty	1.00 0.50 0.50	Very limited Sodium content Slope Salinity Dusty	1.00 1.00 0.50 0.50
Nargon-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Depth to bedrock Dusty	1.00 0.97 0.50
Atom-----	15	Very limited Sodium content Dusty Slow water movement	1.00 0.50 0.21	Very limited Sodium content Dusty Slow water movement	1.00 0.50 0.21	Very limited Sodium content Slope Dusty Slow water movement	1.00 1.00 0.50 0.21
17: Cronks-----	40	Very limited Slope Dusty Slow water movement	1.00 0.50 0.41	Very limited Slope Dusty Slow water movement	1.00 0.50 0.41	Very limited Slope Dusty Slow water movement Gravel content	1.00 0.50 0.41 0.39
Dacont-----	35	Very limited Slope Dusty Gravel content	1.00 0.50 0.01	Very limited Slope Dusty Gravel content	1.00 0.50 0.01	Very limited Slope Gravel content Dusty	1.00 1.00 0.50
18: Crooked Creek-----	85	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96
19: Cryoborolls-----	50	Very limited Slope Large stones content	1.00 0.12	Very limited Slope Large stones content	1.00 0.12	Very limited Slope Gravel content Large stones content	1.00 0.79 0.12
Rubble land-----	20	Not rated		Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated		Not rated	
20: Darlington-----	60	Very limited Gravel content	1.00	Very limited Gravel content	1.00	Very limited Gravel content Slope	1.00 0.12
Lesbut-----	35	Somewhat limited Gravel content	0.05	Somewhat limited Gravel content	0.05	Very limited Gravel content Slope	1.00 0.12
21: Denied access-----	100	Not rated		Not rated		Not rated	

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22: Deuce-----	45	Very limited Depth to bedrock Dusty	1.00 0.50	Very limited Depth to bedrock Dusty	1.00 0.50	Very limited Slope Depth to bedrock Dusty	1.00 1.00 0.50
Nargon-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Depth to bedrock Dusty	1.00 0.97 0.50
Lava flows-----	15	Not rated		Not rated		Not rated	
23: Deuce-----	35	Very limited Slope Depth to bedrock Dusty	1.00 1.00 0.50	Very limited Slope Depth to bedrock Dusty	1.00 1.00 0.50	Very limited Slope Depth to bedrock Dusty	1.00 1.00 0.50
Nargon-----	20	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Depth to bedrock Dusty	1.00 0.99 0.50
Lava flows-----	20	Not rated		Not rated		Not rated	
24: Dickeypeak-----	50	Very limited Sodium content Salinity	1.00 1.00	Very limited Sodium content Salinity	1.00 1.00	Very limited Sodium content Salinity	1.00 1.00
Bigrant-----	40	Very limited Depth to saturated zone Flooding Salinity Slow water movement	1.00 1.00 1.00 0.50 0.21	Very limited Depth to saturated zone Salinity Slow water movement	1.00 1.00 0.50 0.21	Very limited Depth to saturated zone Flooding Salinity Slow water movement	1.00 1.00 0.60 0.50 0.21
25: Donkehill-----	85	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.78	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.78	Very limited Gravel content Slope Depth to bedrock	1.00 1.00 1.00
26: Dredge-----	80	Not limited		Not limited		Somewhat limited Slope	0.12
27: Elbow-----	80	Somewhat limited Depth to cemented pan Gravel content	0.95 0.46	Somewhat limited Depth to cemented pan Gravel content	0.95 0.46	Very limited Gravel content Depth to bedrock Depth to cemented pan Slope	1.00 0.95 0.95 0.12

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
28: Fallert-----	80	Somewhat limited Gravel content Dusty	0.54 0.50	Somewhat limited Gravel content Dusty	0.54 0.50	Very limited Gravel content Slope Dusty	1.00 0.88 0.50
29: Fallert, dry-----	80	Somewhat limited Gravel content Dusty	0.54 0.50	Somewhat limited Gravel content Dusty	0.54 0.50	Very limited Gravel content Slope Dusty	1.00 0.50 0.50
30: Fandow-----	80	Very limited Depth to bedrock Depth to cemented pan Gravel content Dusty	1.00 1.00 0.94 0.50	Very limited Depth to bedrock Depth to cemented pan Gravel content Dusty	1.00 1.00 0.94 0.50	Very limited Depth to bedrock Depth to cemented pan Gravel content Slope Dusty	1.00 1.00 1.00 0.50 0.50
31: Fulwider, high precipitation-----	40	Very limited Depth to cemented pan Depth to bedrock Slope Dusty	1.00 1.00 0.96 0.50	Very limited Depth to cemented pan Depth to bedrock Slope Dusty	1.00 1.00 0.96 0.50	Very limited Depth to cemented pan Slope Depth to bedrock Gravel content Dusty	1.00 1.00 1.00 0.99 0.50
Fulwider, low precipitation-----	30	Very limited Depth to cemented pan Depth to bedrock Slope Dusty	1.00 1.00 0.96 0.50	Very limited Depth to cemented pan Depth to bedrock Slope Dusty	1.00 1.00 0.96 0.50	Very limited Depth to cemented pan Slope Depth to bedrock Gravel content Dusty	1.00 1.00 1.00 0.99 0.50
Fulwider-----	15	Very limited Depth to cemented pan Depth to bedrock Slope Dusty	1.00 1.00 0.96 0.50	Very limited Depth to cemented pan Depth to bedrock Slope Dusty	1.00 1.00 0.96 0.50	Very limited Depth to cemented pan Slope Depth to bedrock Gravel content Dusty	1.00 1.00 1.00 0.88 0.50
32: Goosebury, high precipitation-----	90	Very limited Gravel content Slope Dusty	1.00 0.84 0.50	Very limited Gravel content Slope Dusty	1.00 0.84 0.50	Very limited Gravel content Slope Dusty	1.00 1.00 0.50
33: Goosebury-----	80	Very limited Gravel content Dusty	1.00 0.50	Very limited Gravel content Dusty	1.00 0.50	Very limited Gravel content Slope Dusty	1.00 0.88 0.50

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34: Goosebury, low precipitation-----	45	Very limited Slope Gravel content Dusty	1.00 0.61 0.50	Very limited Slope Gravel content Dusty	1.00 0.61 0.50	Very limited Slope Gravel content Dusty	1.00 1.00 0.50
Goosebury, high precipitation-----	35	Very limited Slope Gravel content Dusty	1.00 0.61 0.50	Very limited Slope Gravel content Dusty	1.00 0.61 0.50	Very limited Slope Gravel content Dusty	1.00 1.00 0.50
35: Hagenbarth-----	30	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
Howcan-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.61
Jonda-----	20	Very limited Slope Gravel content Slow water movement	1.00 0.99 0.21	Very limited Slope Gravel content Slow water movement	1.00 0.99 0.21	Very limited Gravel content Slope Slow water movement	1.00 1.00 0.21
36: Hal-----	60	Very limited Slope Dusty Gravel content	1.00 0.50 0.32	Very limited Slope Dusty Gravel content	1.00 0.50 0.32	Very limited Gravel content Slope Dusty	1.00 1.00 0.50
Moonville-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
37: Hondoho-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.94
38: Howcan-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.61
Hutchley-----	35	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.06	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.06	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 1.00
Rock outcrop-----	10	Not rated		Not rated		Not rated	
39: Howcan-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.61

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39: Zeebar-----	25	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Gravel content Slow water movement	1.00 0.99 0.21
Hutchley-----	20	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.06	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.06	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 1.00
40: Huddle-----	65	Somewhat limited Gravel content	0.79	Somewhat limited Gravel content	0.79	Very limited Gravel content Slope	1.00 1.00
Moonville-----	20	Not limited		Not limited		Very limited Slope	1.00
41: Ike-----	40	Very limited Slope Depth to bedrock Dusty Gravel content	1.00 1.00 0.50 0.49	Very limited Slope Depth to bedrock Dusty Gravel content	1.00 1.00 0.50 0.49	Very limited Slope Depth to bedrock Gravel content Dusty	1.00 1.00 1.00 0.50
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Jimbee-----	15	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.13	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.13	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 1.00
42: Ike-----	45	Very limited Slope Depth to bedrock Dusty Gravel content	1.00 1.00 0.50 0.49	Very limited Slope Depth to bedrock Dusty Gravel content	1.00 1.00 0.50 0.49	Very limited Slope Depth to bedrock Gravel content Dusty	1.00 1.00 1.00 0.50
Simeroi-----	30	Very limited Slope Dusty Gravel content	1.00 0.50 0.08	Very limited Slope Dusty Gravel content	1.00 0.50 0.08	Very limited Slope Gravel content Dusty	1.00 1.00 0.50
Rock outcrop-----	10	Not rated		Not rated		Not rated	
43: Inel-----	35	Very limited Slope Depth to bedrock Dusty Gravel content	1.00 1.00 0.50 0.21	Very limited Slope Depth to bedrock Dusty Gravel content	1.00 1.00 0.50 0.21	Very limited Slope Depth to bedrock Gravel content Dusty	1.00 1.00 1.00 0.50
Matheson-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
44: Inel-----	55	Very limited Slope Depth to bedrock Dusty Gravel content	1.00 1.00 0.50 0.15	Very limited Slope Depth to bedrock Dusty Gravel content	1.00 1.00 0.50 0.15	Very limited Slope Depth to bedrock Gravel content Dusty	1.00 1.00 1.00 0.50
Slide-----	15	Very limited Slope Dusty Gravel content	1.00 1.00 0.50 0.08	Very limited Slope Dusty Gravel content	1.00 1.00 0.50 0.08	Very limited Slope Gravel content Dusty	1.00 1.00 1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
45: Jimbee-----	40	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 1.00 0.13	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 1.00 0.13	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Ike-----	15	Very limited Slope Depth to bedrock Dusty Gravel content	1.00 1.00 1.00 0.50 0.49	Very limited Slope Depth to bedrock Dusty Gravel content	1.00 1.00 1.00 0.50 0.49	Very limited Slope Depth to bedrock Gravel content Dusty	1.00 1.00 1.00 1.00 0.50
46: Jimbee-----	40	Very limited Slope Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 1.00 0.28
Skibo-----	30	Very limited Slope Gravel content	1.00 1.00 0.11	Very limited Slope Gravel content	1.00 1.00 0.11	Very limited Slope Gravel content	1.00 1.00 1.00
Ike-----	15	Very limited Slope Depth to bedrock Dusty Gravel content	1.00 1.00 1.00 0.50 0.49	Very limited Slope Depth to bedrock Dusty Gravel content	1.00 1.00 1.00 0.50 0.49	Very limited Slope Depth to bedrock Gravel content Dusty	1.00 1.00 1.00 1.00 0.50
47: Justesen-----	45	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
Drage-----	40	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope Gravel content	1.00 0.50
48: Ketchum-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Povey-----	30	Very limited Slope Gravel content	1.00 1.00 0.01	Very limited Slope Gravel content	1.00 1.00 0.01	Very limited Slope Gravel content	1.00 1.00 1.00

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49: Kimama-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
50: Klug-----	90	Somewhat limited Gravel content Slope	0.90 0.16	Somewhat limited Gravel content Slope	0.90 0.16	Very limited Gravel content Slope	1.00 1.00
51: Klug-----	60	Very limited Slope Gravel content	1.00 0.90	Very limited Slope Gravel content	1.00 0.90	Very limited Gravel content Slope	1.00 1.00
Parvis-----	20	Very limited Slope Gravel content Slow water movement	1.00 0.95 0.21	Very limited Slope Gravel content Slow water movement	1.00 0.95 0.21	Very limited Gravel content Slope Slow water movement	1.00 1.00 0.21
52: Lag-----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
53: Lavacreek-----	65	Very limited Slope Dusty Large stones content Gravel content	1.00 0.50 0.23 0.21	Very limited Slope Dusty Large stones content Gravel content	1.00 0.50 0.23 0.21	Very limited Slope Gravel content Dusty Large stones content	1.00 1.00 0.50 0.23
Dollarhide-----	25	Very limited Slope Gravel content Depth to bedrock	1.00 1.00 1.00	Very limited Slope Gravel content Depth to bedrock	1.00 1.00 1.00	Very limited Gravel content Slope Depth to bedrock	1.00 1.00 1.00
54: Lavacreek-----	45	Very limited Slope Dusty Large stones content Gravel content	1.00 0.50 0.23 0.21	Very limited Slope Dusty Large stones content Gravel content	1.00 0.50 0.23 0.21	Very limited Slope Gravel content Dusty Large stones content	1.00 1.00 0.50 0.23
Dollarhide-----	20	Very limited Slope Gravel content Depth to bedrock	1.00 1.00 1.00	Very limited Slope Gravel content Depth to bedrock	1.00 1.00 1.00	Very limited Gravel content Slope Depth to bedrock	1.00 1.00 1.00
Grassycone-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
55: Lavacreek-----	45	Very limited Slope Dusty Large stones content Gravel content	1.00 0.50 0.23 0.21	Very limited Slope Dusty Large stones content Gravel content	1.00 0.50 0.23 0.21	Very limited Slope Gravel content Dusty Large stones content	1.00 1.00 0.50 0.23



## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
55: Vitale-----	35	Very limited Slope Large stones content Gravel content	1.00 0.23 0.21	Very limited Slope Large stones content Gravel content	1.00 0.23 0.21	Very limited Slope Gravel content Large stones content Depth to bedrock	1.00 1.00 0.23 0.20
56: Lava flows-----	100	Not rated		Not rated		Not rated	
57: Lava flows-----	70	Not rated		Not rated		Not rated	
Cinderhurst-----	20	Very limited Depth to bedrock Large stones content Slope	1.00 0.95 0.04	Very limited Depth to bedrock Large stones content Slope	1.00 0.95 0.04	Very limited Depth to bedrock Slope Large stones content Gravel content	1.00 1.00 0.95 0.27
58: Lava flows-----	60	Not rated		Not rated		Not rated	
Pingree-----	35	Very limited Depth to bedrock Dusty Gravel content	1.00 0.50 0.01	Very limited Depth to bedrock Dusty Gravel content	1.00 0.50 0.01	Very limited Depth to bedrock Gravel content Dusty	1.00 1.00 0.50
59: Leatherman-----	45	Very limited Slope Depth to cemented pan Depth to bedrock Dusty Gravel content	1.00 1.00 1.00 0.50 0.10	Very limited Slope Depth to cemented pan Depth to bedrock Dusty Gravel content	1.00 1.00 1.00 0.50 0.10	Very limited Slope Depth to cemented pan Depth to bedrock Gravel content Dusty	1.00 1.00 1.00 1.00 0.50
Adek, dry-----	20	Somewhat limited Slope Gravel content	0.84 0.20	Somewhat limited Slope Gravel content	0.84 0.20	Very limited Gravel content Slope	1.00 1.00
Adek-----	15	Very limited Slope Gravel content	1.00 0.20	Very limited Slope Gravel content	1.00 0.20	Very limited Slope Gravel content	1.00 1.00
60: Leatherman-----	45	Very limited Depth to cemented pan Depth to bedrock Dusty Gravel content	1.00 1.00 0.50 0.10	Very limited Depth to cemented pan Depth to bedrock Dusty Gravel content	1.00 1.00 0.50 0.10	Very limited Depth to cemented pan Gravel content Depth to bedrock Slope Dusty	1.00 1.00 1.00 1.00 0.88 0.50

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
60: Bluedome-----	30	Somewhat limited Depth to cemented pan Dusty	0.97  0.50	Somewhat limited Depth to cemented pan Dusty	0.97  0.50	Somewhat limited Depth to bedrock Depth to cemented pan Slope Dusty Gravel content	0.97 0.97  0.88 0.50 0.44
61: Malm-----	60	Not limited		Not limited		Somewhat limited Slope Depth to bedrock	0.88 0.01
Bondfarm-----	20	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.88
Matheson-----	15	Not limited		Not limited		Somewhat limited Slope	0.88
62: Matheson-----	70	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Grassy Butte-----	20	Somewhat limited Slope Too sandy	0.96 0.79	Somewhat limited Slope Too sandy	0.96 0.79	Very limited Slope Too sandy	1.00 0.79
63: McCain-----	65	Somewhat limited Dusty Slow water movement	0.50 0.21	Somewhat limited Dusty Slow water movement	0.50 0.21	Somewhat limited Depth to bedrock Dusty Slow water movement Slope	0.65 0.50 0.21 0.12
Thornock-----	20	Very limited Depth to bedrock Dusty Slow water movement	1.00 0.50 0.21	Very limited Depth to bedrock Dusty Slow water movement	1.00 0.50 0.21	Very limited Depth to bedrock Dusty Slow water movement Slope	1.00 0.50 0.21 0.12
64: McCarey-----	45	Not limited		Not limited		Somewhat limited Slope Depth to bedrock	0.50 0.20
Beartrap-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.50 0.50
65: McCarey-----	60	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope Depth to bedrock	1.00 0.20

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65: Beartrap-----	25	Somewhat limited Slope Dusty	0.84 0.50	Somewhat limited Slope Dusty	0.84 0.50	Very limited Slope Dusty	1.00 0.50
66: McCarey-----	40	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope Depth to bedrock	1.00 0.20
Beartrap-----	30	Somewhat limited Dusty Slope	0.50 0.04	Somewhat limited Dusty Slope	0.50 0.04	Very limited Slope Dusty	1.00 0.50
Rock outcrop-----	25	Not rated		Not rated		Not rated	
67: McCarey-----	40	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope Depth to bedrock	1.00 0.65
Molyneux-----	25	Not limited		Not limited		Somewhat limited Slope	0.88
Lava flows-----	20	Not rated		Not rated		Not rated	
68: McCarey-----	55	Not limited		Not limited		Very limited Slope Depth to bedrock	1.00 0.20
Splittop-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Gravel content Dusty Depth to bedrock	1.00 0.56 0.50 0.46
Lava flows-----	15	Not rated		Not rated		Not rated	
69: McCarey-----	45	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope Depth to bedrock	1.00 0.20
Vickton-----	20	Not limited		Not limited		Very limited Slope	1.00
Lava flows-----	15	Not rated		Not rated		Not rated	
70: McClenden-----	55	Not limited		Not limited		Somewhat limited Slope	0.12
Thornock-----	20	Very limited Depth to bedrock Dusty Slow water movement	1.00 0.50 0.21	Very limited Depth to bedrock Dusty Slow water movement	1.00 0.50 0.21	Very limited Depth to bedrock Dusty Slow water movement Slope	1.00 0.50 0.21 0.12

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
71: Medicine-----	60	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
Whiteknob-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
72: Menan-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
73: Mogg-----	45	Very limited Slope Depth to bedrock Gravel content Dusty	1.00 1.00 0.58 0.50	Very limited Slope Depth to bedrock Gravel content Dusty	1.00 1.00 0.58 0.50	Very limited Gravel content Slope Depth to bedrock Dusty	1.00 1.00 1.00 0.50
Shagel-----	30	Very limited Slope Depth to bedrock Gravel content Large stones content	1.00 1.00 0.22 0.01	Very limited Slope Depth to bedrock Gravel content Large stones content	1.00 1.00 0.22 0.01	Very limited Slope Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 0.01
74: Mooretown-----	50	Very limited Flooding Depth to saturated zone	1.00 0.07	Somewhat limited Depth to saturated zone	0.03	Somewhat limited Flooding Depth to saturated zone	0.60 0.07
Borah-----	40	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Flooding	0.98 0.60
75: Mooretown, drained--	50	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Borco-----	30	Somewhat limited Gravel content Dusty	0.95 0.50	Somewhat limited Gravel content Dusty	0.95 0.50	Very limited Gravel content Dusty	1.00 0.50
76: Nargon-----	35	Somewhat limited Dusty Slope	0.50 0.37	Somewhat limited Dusty Slope	0.50 0.37	Very limited Slope Depth to bedrock Dusty	1.00 0.97 0.50
Atom-----	30	Very limited Sodium content Dusty Slope Slow water movement	1.00 0.50 0.37 0.21	Very limited Sodium content Dusty Slope Slow water movement	1.00 0.50 0.37 0.21	Very limited Sodium content Slope Dusty Slow water movement	1.00 1.00 0.50 0.21
Techicknot-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Dusty	1.00 0.50

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77: Nargon-----	50	Somewhat limited Dusty Slope	0.50 0.37	Somewhat limited Dusty Slope	0.50 0.37	Very limited Slope Depth to bedrock Dusty	1.00 0.99 0.50
Deuce-----	20	Very limited Depth to bedrock Dusty Slope	1.00 0.50 0.37	Very limited Depth to bedrock Dusty Slope	1.00 0.50 0.37	Very limited Slope Depth to bedrock Dusty	1.00 1.00 0.50
Lava flows-----	10	Not rated		Not rated		Not rated	
78: Nitchly-----	75	Very limited Slope Dusty Gravel content	1.00 0.50 0.08	Very limited Slope Dusty Gravel content	1.00 0.50 0.08	Very limited Slope Gravel content Dusty	1.00 1.00 0.50
79: Nurkey-----	50	Very limited Slope Slow water movement Gravel content	1.00 0.21 0.06	Very limited Slope Slow water movement Gravel content	1.00 0.21 0.06	Very limited Slope Gravel content Slow water movement	1.00 1.00 0.21
Dacont-----	30	Very limited Slope Dusty Gravel content	1.00 0.50 0.01	Very limited Slope Dusty Gravel content	1.00 0.50 0.01	Very limited Slope Gravel content Dusty	1.00 1.00 0.50
80: Nurkey-----	50	Very limited Slope Slow water movement Gravel content	1.00 0.21 0.06	Very limited Slope Slow water movement Gravel content	1.00 0.21 0.06	Very limited Slope Gravel content Slow water movement	1.00 1.00 0.21
Dacont-----	35	Very limited Slope Dusty Gravel content	1.00 0.50 0.01	Very limited Slope Dusty Gravel content	1.00 0.50 0.01	Very limited Slope Gravel content Dusty	1.00 1.00 0.50
81: Nurkey-----	80	Very limited Slope Slow water movement Gravel content	1.00 0.21 0.10	Very limited Slope Slow water movement Gravel content	1.00 0.21 0.10	Very limited Slope Gravel content Slow water movement	1.00 1.00 0.21
Nurkey, low precipitation-----	20	Very limited Slope Slow water movement Gravel content	1.00 0.21 0.13	Very limited Slope Slow water movement Gravel content	1.00 0.21 0.13	Very limited Slope Gravel content Slow water movement	1.00 1.00 0.21

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
82: Calclids-----	50	Very limited Slope Dusty Gravel content	1.00 0.50 0.14	Very limited Slope Dusty Gravel content	1.00 0.50 0.14	Very limited Slope Gravel content Dusty	1.00 1.00 0.50
Rubble land-----	20	Not rated		Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated		Not rated	
83: Packmo-----	50	Somewhat limited Dusty Gravel content Slope	0.50 0.45 0.16	Somewhat limited Dusty Gravel content Slope	0.50 0.45 0.16	Very limited Slope Gravel content Dusty	1.00 1.00 0.50
Snowslide-----	40	Somewhat limited Dusty Gravel content Slope	0.50 0.47 0.16	Somewhat limited Dusty Gravel content Slope	0.50 0.47 0.16	Very limited Slope Gravel content Dusty	1.00 1.00 0.50
84: Paint-----	45	Very limited Depth to cemented pan Depth to bedrock Dusty Gravel content Slope	1.00 1.00 0.50 0.39 0.01	Very limited Depth to cemented pan Depth to bedrock Dusty Gravel content Slope	1.00 1.00 0.50 0.39 0.01	Very limited Depth to cemented pan Depth to bedrock Slope Gravel content Dusty	1.00 1.00 1.00 1.00 0.50
Fallert-----	40	Somewhat limited Gravel content Dusty Slope	0.54 0.50 0.01	Somewhat limited Gravel content Dusty Slope	0.54 0.50 0.01	Very limited Slope Gravel content Dusty	1.00 1.00 0.50
85: Paint-----	65	Very limited Depth to cemented pan Depth to bedrock Dusty Gravel content	1.00 1.00 0.50 0.08	Very limited Depth to cemented pan Depth to bedrock Dusty Gravel content	1.00 1.00 0.50 0.08	Very limited Depth to cemented pan Gravel content Depth to bedrock Dusty Slope	1.00 1.00 1.00 0.50 0.12
Whitecloud-----	20	Somewhat limited Dusty Gravel content	0.50 0.12	Somewhat limited Dusty Gravel content	0.50 0.12	Very limited Gravel content Dusty Slope	1.00 0.50 0.12
86: Pancheri-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.88 0.50
87: Pancheri-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Dusty	1.00 0.50

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
87: Polatis-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Dusty Depth to bedrock	1.00 0.50 0.01
88: Playas-----	100	Not rated		Not rated		Not rated	
89: Polatis-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
90: Portino-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock Dusty Slope	0.54 0.50 0.12
Thornock-----	30	Very limited Depth to bedrock Dusty Slow water movement	1.00 0.50 0.21	Very limited Depth to bedrock Dusty Slow water movement	1.00 0.50 0.21	Very limited Depth to bedrock Dusty Slow water movement Slope	1.00 0.50 0.21 0.12
91: Riverlost-----	45	Very limited Slope Slow water movement Large stones content	1.00 0.41 0.01	Very limited Slope Slow water movement Large stones content	1.00 0.41 0.01	Very limited Slope Slow water movement Large stones content	1.00 0.41 0.01
Frymire-----	40	Very limited Slope Slow water movement Large stones content	1.00 0.96 0.08	Very limited Slope Slow water movement Large stones content	1.00 0.96 0.08	Very limited Slope Slow water movement Gravel content Large stones content	1.00 0.96 0.84 0.08
92: Riverlost-----	60	Very limited Slope Slow water movement Large stones content	1.00 0.41 0.01	Very limited Slope Slow water movement Large stones content	1.00 0.41 0.01	Very limited Slope Slow water movement Large stones content	1.00 0.41 0.01
Grouseville-----	20	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
93: Riverlost-----	55	Very limited Slope Slow water movement Large stones content	1.00 0.41 0.01	Very limited Slope Slow water movement Large stones content	1.00 0.41 0.01	Very limited Slope Slow water movement Large stones content	1.00 0.41 0.01
Soen-----	30	Very limited Slope Slow water movement	1.00 0.41	Very limited Slope Slow water movement	1.00 0.41	Very limited Slope Slow water movement	1.00 0.41
94: Rubble land-----	40	Not rated		Not rated		Not rated	
Milligan-----	35	Very limited Slope Large stones content	1.00 0.65	Very limited Slope Large stones content	1.00 0.65	Very limited Slope Gravel content Large stones content Depth to bedrock	1.00 0.92 0.65 0.01
95: Sanfelipe-----	85	Somewhat limited Dusty Gravel content	0.50 0.01	Somewhat limited Dusty Gravel content	0.50 0.01	Very limited Gravel content Slope Dusty	1.00 1.00 0.50
96: Sanfelipe-----	90	Somewhat limited Dusty Slope Gravel content	0.50 0.16 0.01	Somewhat limited Dusty Slope Gravel content	0.50 0.16 0.01	Very limited Gravel content Slope Dusty	1.00 1.00 0.50
97: Sanfelipe-----	65	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Dusty	0.79 0.50
McCaleb-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Gravel content	0.50 0.44
98: Sanfelipe-----	70	Somewhat limited Dusty Gravel content	0.50 0.01	Somewhat limited Dusty Gravel content	0.50 0.01	Very limited Gravel content Dusty Slope	1.00 0.50 0.12
Simeroi-----	20	Somewhat limited Dusty Gravel content	0.50 0.08	Somewhat limited Dusty Gravel content	0.50 0.08	Very limited Gravel content Dusty Slope	1.00 0.50 0.12
99: Simeroi-----	85	Somewhat limited Dusty Gravel content	0.50 0.08	Somewhat limited Dusty Gravel content	0.50 0.08	Very limited Gravel content Slope Dusty	1.00 0.50 0.50



## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
100: Simeroi-----	75	Somewhat limited Dusty Gravel content Slope	 0.50 0.08 0.04	Somewhat limited Dusty Gravel content Slope	 0.50 0.08 0.04	Very limited Gravel content Slope Dusty	 1.00 1.00 0.50
101: Simeroi-----	85	Somewhat limited Dusty Slope Gravel content	 0.50 0.16 0.08	Somewhat limited Dusty Slope Gravel content	 0.50 0.16 0.08	Very limited Slope Gravel content Dusty	 1.00 1.00 0.50
102: Simeroi, cool-----	85	Somewhat limited Slope Dusty Gravel content	 0.96 0.50 0.08	Somewhat limited Slope Dusty Gravel content	 0.96 0.50 0.08	Very limited Gravel content Slope Dusty	 1.00 1.00 0.50
103: Simeroi, dry-----	80	Very limited Slope Dusty Gravel content	 1.00 0.50 0.08	Very limited Slope Dusty Gravel content	 1.00 0.50 0.08	Very limited Slope Gravel content Dusty	 1.00 1.00 0.50
104: Simeroi-----	60	Somewhat limited Dusty Gravel content	 0.50 0.08	Somewhat limited Dusty Gravel content	 0.50 0.08	Very limited Gravel content Slope Dusty	 1.00 0.88 0.50
Paint-----	25	Very limited Depth to cemented pan Depth to bedrock Dusty Gravel content	 1.00 1.00 0.50 0.39	Very limited Depth to cemented pan Depth to bedrock Dusty Gravel content	 1.00 1.00 0.50 0.39	Very limited Depth to cemented pan Gravel content Depth to bedrock Slope Dusty	 1.00 1.00 1.00 0.88 0.50
105: Simeroi, dry-----	50	Very limited Slope Dusty Gravel content	 1.00 0.50 0.08	Very limited Slope Dusty Gravel content	 1.00 0.50 0.08	Very limited Gravel content Slope Dusty	 1.00 1.00 0.50
Simeroi-----	30	Very limited Slope Dusty Gravel content	 1.00 0.50 0.08	Very limited Slope Dusty Gravel content	 1.00 0.50 0.08	Very limited Gravel content Slope Dusty	 1.00 1.00 0.50
106: Simeroi-----	60	Somewhat limited Dusty Gravel content Slope	 0.50 0.08 0.01	Somewhat limited Dusty Gravel content Slope	 0.50 0.08 0.01	Very limited Gravel content Slope Dusty	 1.00 1.00 0.50
Sparmo-----	25	Somewhat limited Dusty Slope	 0.50 0.01	Somewhat limited Dusty Slope	 0.50 0.01	Very limited Slope Dusty	 1.00 0.50

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
107: Simeroi-----	40	Somewhat limited Dusty Gravel content	0.50 0.08	Somewhat limited Dusty Gravel content	0.50 0.08	Very limited Gravel content Slope Dusty	1.00 0.50 0.50
Slide-----	35	Somewhat limited Dusty Gravel content	0.50 0.08	Somewhat limited Dusty Gravel content	0.50 0.08	Very limited Gravel content Slope Dusty	1.00 0.50 0.50
McCaleb-----	15	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty Gravel content	0.50 0.50 0.44
108: Simeroi-----	40	Very limited Slope Dusty Gravel content	1.00 0.50 0.08	Very limited Slope Dusty Gravel content	1.00 0.50 0.08	Very limited Slope Gravel content Dusty	1.00 1.00 0.50
Bealand-----	40	Very limited Slope Gravel content	1.00 0.26	Very limited Slope Gravel content	1.00 0.26	Very limited Gravel content Slope	1.00 1.00
109: Slide-----	80	Somewhat limited Dusty Gravel content	0.50 0.08	Somewhat limited Dusty Gravel content	0.50 0.08	Very limited Gravel content Slope Dusty	1.00 1.00 0.50
110: Snowslide-----	80	Somewhat limited Dusty Gravel content	0.50 0.47	Somewhat limited Dusty Gravel content	0.50 0.47	Very limited Gravel content Slope Dusty	1.00 1.00 0.50
111: Snowslide-----	85	Somewhat limited Slope Dusty Gravel content	0.84 0.50 0.47	Somewhat limited Slope Dusty Gravel content	0.84 0.50 0.47	Very limited Gravel content Slope Dusty	1.00 1.00 0.50
112: Snowslide-----	80	Somewhat limited Dusty Gravel content	0.50 0.47	Somewhat limited Dusty Gravel content	0.50 0.47	Very limited Gravel content Dusty Slope	1.00 0.50 0.12
Zer-----	15	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Dusty Slope	0.99 0.50 0.12
113: Snowslide-----	35	Very limited Slope Dusty Gravel content	1.00 0.50 0.47	Very limited Slope Dusty Gravel content	1.00 0.50 0.47	Very limited Gravel content Slope Dusty	1.00 1.00 0.50

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113: Zer-----	30	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Gravel content Dusty	1.00 0.99 0.50
Snowslide, low precipitation-----	20	Very limited Slope Dusty Gravel content	1.00 0.50 0.47	Very limited Slope Dusty Gravel content	1.00 0.50 0.47	Very limited Gravel content Slope Dusty	1.00 1.00 0.50
114: Soen-----	80	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41
115: Soen-----	70	Somewhat limited Slow water movement Slope	0.41 0.01	Somewhat limited Slow water movement Slope	0.41 0.01	Very limited Slope Slow water movement	1.00 0.41
Justesen-----	25	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
116: Sparmo-----	75	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.12
117: Sparmo-----	50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.12
Bluedome-----	35	Somewhat limited Depth to cemented pan Dusty	0.95 0.50	Somewhat limited Depth to cemented pan Dusty	0.95 0.50	Somewhat limited Depth to bedrock Depth to cemented pan Dusty Gravel content Slope	0.95 0.95 0.50 0.44 0.12
118: Sparmo-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.12
Zer-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Dusty Slope	0.99 0.50 0.12

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
119: Splittop-----	50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Slope Dusty Depth to bedrock	0.56 0.50 0.50 0.29
Atomic-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.50 0.50
120: Splittop-----	50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Slope Dusty Depth to bedrock	0.56 0.50 0.50 0.29
Coffee-----	30	Very limited Sodium content Salinity Dusty	1.00 0.50 0.50	Very limited Sodium content Salinity Dusty	1.00 0.50 0.50	Very limited Sodium content Salinity Slope Dusty	1.00 0.50 0.50 0.50
121: Stan-----	95	Not limited		Not limited		Somewhat limited Slope Gravel content	0.12 0.01
122: Stan-----	55	Not limited		Not limited		Somewhat limited Slope Gravel content	0.12 0.01
Breitenbach-----	30	Not limited		Not limited		Somewhat limited Slope Gravel content	0.12 0.01
123: Stan, loamy fine sand surface-----	70	Somewhat limited Too sandy	0.94	Somewhat limited Too sandy	0.94	Somewhat limited Too sandy Slope Gravel content	0.94 0.12 0.01
Stan-----	25	Not limited		Not limited		Somewhat limited Slope Gravel content	0.12 0.01
124: Starlite-----	80	Somewhat limited Dusty Slow water movement	0.50 0.21	Somewhat limited Dusty Slow water movement	0.50 0.21	Somewhat limited Dusty Slow water movement	0.50 0.21
125: Techick-----	50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Gravel content Dusty	1.00 0.56 0.50

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
125: Soelberg-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Dusty	1.00 0.50
126: Techick-----	40	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Dusty	0.56 0.50
Soelberg-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
Lesbut-----	15	Somewhat limited Gravel content	0.05	Somewhat limited Gravel content	0.05	Very limited Gravel content	1.00
127: Techicknot-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Dusty	1.00 0.50
Atom-----	25	Very limited Sodium content Dusty Slow water movement	1.00 0.50 0.21	Very limited Sodium content Dusty Slow water movement	1.00 0.50 0.21	Very limited Sodium content Slope Dusty Slow water movement	1.00 1.00 0.50 0.21
Nargon-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Depth to bedrock Dusty	1.00 0.97 0.50
128: Tenno-----	50	Very limited Depth to bedrock Dusty	1.00 0.50	Very limited Depth to bedrock Dusty	1.00 0.50	Very limited Depth to bedrock Slope Dusty	1.00 1.00 0.50
Splittop-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Gravel content Dusty Depth to bedrock	1.00 0.56 0.50 0.16
Lava flows-----	15	Not rated		Not rated		Not rated	
129: Tenno-----	45	Very limited Depth to bedrock Dusty	1.00 0.50	Very limited Depth to bedrock Dusty	1.00 0.50	Very limited Depth to bedrock Dusty Slope	1.00 0.50 0.12
Splittop-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Dusty Depth to bedrock Slope	0.56 0.50 0.46 0.12

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129: McCarey-----	20	Not limited		Not limited		Somewhat limited Depth to bedrock Slope	0.99 0.12
130: Thornock-----	45	Very limited Depth to bedrock Dusty Slow water movement	1.00 0.50 0.21	Very limited Depth to bedrock Dusty Slow water movement	1.00 0.50 0.21	Very limited Depth to bedrock Slope Dusty Slow water movement	1.00 1.00 0.50 0.21
Portino-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Depth to bedrock Dusty	1.00 0.54 0.50
131: Thornock-----	50	Very limited Depth to bedrock Dusty Slow water movement Slope	1.00 0.50 0.21 0.16	Very limited Depth to bedrock Dusty Slow water movement Slope	1.00 0.50 0.21 0.16	Very limited Slope Depth to bedrock Dusty Slow water movement	1.00 1.00 0.50 0.21
Portino-----	25	Somewhat limited Dusty Slope	0.50 0.16	Somewhat limited Dusty Slope	0.50 0.16	Very limited Slope Depth to bedrock Dusty	1.00 0.54 0.50
132: Thosand-----	50	Very limited Depth to saturated zone Flooding Ponding Salinity	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Salinity	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Flooding Salinity	1.00 1.00 0.60 0.50
San crane-----	25	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
133: Truesdale-----	45	Somewhat limited Depth to cemented pan Dusty	0.99 0.50	Somewhat limited Depth to cemented pan Dusty	0.99 0.50	Somewhat limited Dusty	0.50
Minidoka-----	40	Somewhat limited Depth to cemented pan Dusty	0.54 0.50	Somewhat limited Depth to cemented pan Dusty	0.54 0.50	Somewhat limited Gravel content Dusty	0.56 0.50

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
134: Vitale-----	45	Very limited Slope Large stones content Gravel content	1.00 0.23 0.21	Very limited Slope Large stones content Gravel content	1.00 0.23 0.21	Very limited Slope Gravel content Large stones content Depth to bedrock	1.00 1.00 0.23 0.20
Blackspar-----	35	Very limited Slope Depth to bedrock Large stones content Gravel content	1.00 1.00 0.35 0.01	Very limited Slope Depth to bedrock Large stones content Gravel content	1.00 1.00 0.35 0.01	Very limited Slope Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 0.35
135: Whitecloud-----	75	Somewhat limited Dusty Gravel content	0.50 0.12	Somewhat limited Dusty Gravel content	0.50 0.12	Very limited Gravel content Dusty Slope	1.00 0.50 0.12
136: Whitecloud-----	55	Somewhat limited Dusty Gravel content	0.50 0.12	Somewhat limited Dusty Gravel content	0.50 0.12	Very limited Gravel content Dusty Slope	1.00 0.50 0.12
Sanfelipe-----	25	Somewhat limited Dusty Gravel content	0.50 0.01	Somewhat limited Dusty Gravel content	0.50 0.01	Very limited Gravel content Dusty	1.00 0.50
137: Zeale-----	70	Somewhat limited Slope Gravel content	0.37 0.19	Somewhat limited Slope Gravel content	0.37 0.19	Very limited Gravel content Slope	1.00 1.00
Zeale, high precipitation-----	25	Somewhat limited Slope Gravel content	0.37 0.19	Somewhat limited Slope Gravel content	0.37 0.19	Very limited Gravel content Slope	1.00 1.00
138: Zeale-----	70	Very limited Slope Gravel content	1.00 0.19	Very limited Slope Gravel content	1.00 0.19	Very limited Slope Gravel content	1.00 1.00
Zeale, high precipitation-----	25	Very limited Slope Gravel content	1.00 0.19	Very limited Slope Gravel content	1.00 0.19	Very limited Slope Gravel content	1.00 1.00
139: Zeale-----	35	Very limited Slope Gravel content	1.00 0.19	Very limited Slope Gravel content	1.00 0.19	Very limited Slope Gravel content	1.00 1.00
Coalkiln-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
139: Jimbee-----	25	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.51	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.51	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 1.00
140: Zeebar, cool-----	55	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Gravel content Slow water movement	1.00 0.99 0.21
Zeebar-----	30	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Gravel content Slow water movement	1.00 0.99 0.21
141: Zeebar-----	40	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Gravel content Slow water movement	1.00 0.99 0.21
Parvis-----	25	Very limited Slope Gravel content Slow water movement	1.00 0.95 0.21	Very limited Slope Gravel content Slow water movement	1.00 0.95 0.21	Very limited Slope Gravel content Slow water movement	1.00 1.00 0.21
Howcan-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.61
142: Zer-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Dusty Slope	0.99 0.50 0.12
143: Zer-----	85	Somewhat limited Dusty Gravel content Slope	0.50 0.03 0.01	Somewhat limited Dusty Gravel content Slope	0.50 0.03 0.01	Very limited Gravel content Slope Dusty	1.00 1.00 0.50
144: Zer-----	95	Somewhat limited Gravel content Slope Dusty	0.72 0.63 0.50	Somewhat limited Gravel content Slope Dusty	0.72 0.63 0.50	Very limited Gravel content Slope Dusty	1.00 1.00 0.50
145: Zer-----	80	Very limited Slope Dusty Gravel content	1.00 0.50 0.01	Very limited Slope Dusty Gravel content	1.00 0.50 0.01	Very limited Gravel content Slope Dusty	1.00 1.00 0.50



## Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
146: Zer-----	45	Somewhat limited Dusty Slope	0.50 0.16	Somewhat limited Dusty Slope	0.50 0.16	Very limited Slope Gravel content Dusty	1.00 0.99 0.50
Snowslide-----	40	Somewhat limited Dusty Gravel content Slope	0.50 0.47 0.16	Somewhat limited Dusty Gravel content Slope	0.50 0.47 0.16	Very limited Gravel content Slope Dusty	1.00 1.00 0.50
147: Zer-----	65	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Dusty Slope	0.99 0.50 0.12
Whiteknob-----	25	Somewhat limited Gravel content Dusty	0.84 0.50	Somewhat limited Gravel content Dusty	0.84 0.50	Very limited Gravel content Dusty Slope	1.00 0.50 0.12
148: Mooretown-----	45	Very limited Flooding Depth to saturated zone	1.00 0.07	Somewhat limited Depth to saturated zone	0.03	Somewhat limited Flooding Depth to saturated zone	0.60 0.07
Blackfoot-----	25	Somewhat limited Depth to saturated zone	0.07	Somewhat limited Depth to saturated zone	0.03	Somewhat limited Depth to saturated zone	0.07
Borah-----	20	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Flooding	0.98 0.60
149: Drage, cool-----	85	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope Gravel content	1.00 0.99
150: Vitale-----	45	Very limited Slope Large stones content Gravel content	1.00 0.23 0.21	Very limited Slope Large stones content Gravel content	1.00 0.23 0.21	Very limited Slope Gravel content Depth to bedrock Large stones content	1.00 1.00 0.95 0.23
Blackspar-----	35	Very limited Slope Depth to bedrock Large stones content Gravel content	1.00 1.00 0.35 0.01	Very limited Slope Depth to bedrock Large stones content Gravel content	1.00 1.00 0.35 0.01	Very limited Slope Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 0.35

## Paths, Trails, and Golf Fairways

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1: Arco-----	85	Not limited		Not limited		Somewhat limited Flooding	0.60
2: Atom-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Sodium content	1.00
3: Atom-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Sodium content	1.00
4: Atom-----	50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Sodium content	1.00
Splittop-----	40	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock	0.16
5: Bealand-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Carbonate content Gravel content	1.00 1.00 0.26
Zeale-----	25	Very limited Slope	1.00	Somewhat limited Slope	0.08	Very limited Slope Carbonate content Gravel content Droughty	1.00 1.00 0.19 0.11
6: Blackfoot-----	85	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.10
7: Bluedome-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Depth to bedrock Depth to cemented pan	1.00 0.06 0.06
8: Bluedome-----	50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Depth to bedrock Depth to cemented pan	1.00 0.65 0.64
McCaleb-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9: Bockston-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
10: Breitenbach-----	80	Not limited		Not limited		Somewhat limited Gravel content Droughty	0.70 0.08
11: Breitenbach-----	65	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Not limited	
Stan-----	25	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Droughty	0.32
12: Buist-----	90	Not limited		Not limited		Somewhat limited Gravel content Droughty	0.95 0.02
13: Bunting-----	95	Not limited		Not limited		Somewhat limited Droughty Large stones content	0.49 0.01
14: Coffee-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Sodium content Salinity	1.00 0.50
15: Coffee-----	45	Very limited Water erosion Dusty	1.00 0.50	Very limited Water erosion Dusty	1.00 0.50	Very limited Sodium content Slope Salinity	1.00 0.63 0.50
Nargon-----	30	Very limited Water erosion Dusty	1.00 0.50	Very limited Water erosion Dusty	1.00 0.50	Somewhat limited Depth to bedrock Slope Large stones content	0.97 0.63 0.01
16: Coffee-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Sodium content Salinity	1.00 0.50
Nargon-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock Large stones content	0.97 0.01
Atom-----	15	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Sodium content	1.00

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17: Cronks-----	40	Very limited Slope Dusty	1.00 0.50	Somewhat limited Slope Dusty	0.56 0.50	Very limited Slope Large stones content Droughty	1.00 0.46 0.01
Dacont-----	35	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Gravel content	1.00 0.01
18: Crooked Creek-----	85	Not limited		Not limited		Not limited	
19: Cryoborolls-----	50	Very limited Slope Large stones content	1.00 0.12	Very limited Slope Large stones content	1.00 0.12	Very limited Slope Large stones content Droughty	1.00 1.00 0.59
Rubble land-----	20	Not rated		Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated		Not rated	
20: Darlington-----	60	Not limited		Not limited		Very limited Gravel content Droughty	1.00 0.03
Lesbut-----	35	Not limited		Not limited		Somewhat limited Droughty Gravel content	0.46 0.05
21: Denied access-----	100	Not rated		Not rated		Not rated	
22: Deuce-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Droughty Large stones content	1.00 0.61 0.54
Nargon-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock Large stones content	0.97 0.01
Lava flows-----	15	Not rated		Not rated		Not rated	
23: Deuce-----	35	Somewhat limited Dusty Slope	0.50 0.02	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Slope Droughty Large stones content	1.00 1.00 0.60 0.54

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23: Nargon-----	20	Very limited Water erosion Dusty Slope	1.00 0.50 0.02	Very limited Water erosion Dusty	1.00 0.50	Very limited Slope Depth to bedrock Droughty Large stones content	1.00 0.99 0.02 0.01
Lava flows-----	20	Not rated		Not rated		Not rated	
24: Dickeypeak-----	50	Not limited		Not limited		Very limited Salinity Sodium content	1.00 1.00
Bigrant-----	40	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding Salinity	1.00 0.60 0.50
25: Donkehill-----	85	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Slope Droughty Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 0.78 0.05
26: Dredge-----	80	Not limited		Not limited		Not limited	
27: Elbow-----	80	Not limited		Not limited		Somewhat limited Depth to bedrock Depth to cemented pan Droughty Gravel content	0.95 0.95 0.86 0.46
28: Fallert-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content Large stones content	1.00 0.99 0.54 0.01
29: Fallert, dry-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content Large stones content	1.00 0.97 0.54 0.01

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30: Fandow-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Depth to cemented pan Carbonate content Droughty Gravel content	1.00 1.00  1.00 0.99 0.94
31: Fulwider, high precipitation-----	40	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to cemented pan Droughty Depth to bedrock Slope Large stones content	1.00  1.00 1.00 0.96 0.01
Fulwider, low precipitation-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to cemented pan Droughty Depth to bedrock Slope Large stones content	1.00  1.00 1.00 0.96 0.01
Fulwider-----	15	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to cemented pan Droughty Depth to bedrock Slope Large stones content	1.00  1.00 1.00 0.96 0.01
32: Goosebury, high precipitation-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Gravel content Slope Droughty Large stones content	1.00 0.84 0.65 0.01
33: Goosebury-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Gravel content Droughty Large stones content	1.00 0.65 0.01

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34: Goosebury, low precipitation-----	45	Somewhat limited Slope Dusty	0.92 0.50	Somewhat limited Dusty	0.50	Very limited Slope Gravel content Droughty Large stones content	1.00 0.61 0.56 0.01
Goosebury, high precipitation-----	35	Somewhat limited Slope Dusty	0.92 0.50	Somewhat limited Dusty	0.50	Very limited Slope Gravel content Droughty Large stones content	1.00 0.61 0.12 0.01
35: Hagenbarth-----	30	Very limited Slope	1.00	Not limited		Very limited Slope	1.00
Howcan-----	25	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope Droughty Large stones content	1.00 0.20 0.03
Jonda-----	20	Very limited Slope	1.00	Not limited		Very limited Slope Gravel content Droughty Large stones content	1.00 0.99 0.87 0.05
36: Hal-----	60	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Gravel content	1.00 0.32
Moonville-----	25	Very limited Water erosion Slope	1.00 0.92	Very limited Water erosion	1.00	Very limited Slope	1.00
37: Hondoho-----	85	Somewhat limited Slope	0.08	Not limited		Very limited Slope Large stones content	1.00 0.46
38: Howcan-----	50	Very limited Slope	1.00	Somewhat limited Slope	0.96	Very limited Slope Droughty Large stones content	1.00 0.20 0.03

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
38: Hutchley-----	35	Very limited Slope	1.00	Not limited		Very limited Slope Droughty Depth to bedrock Large stones content Gravel content	1.00 1.00 1.00 0.92 0.06
Rock outcrop-----	10	Not rated		Not rated		Not rated	
39: Howcan-----	35	Very limited Slope	1.00	Somewhat limited Slope	0.96	Very limited Slope Droughty Large stones content	1.00 0.20 0.03
Zeebar-----	25	Very limited Slope	1.00	Somewhat limited Slope	0.56	Very limited Slope	1.00
Hutchley-----	20	Very limited Slope	1.00	Not limited		Very limited Slope Droughty Depth to bedrock Large stones content Gravel content	1.00 1.00 1.00 0.92 0.06
40: Huddle-----	65	Not limited		Not limited		Somewhat limited Gravel content	0.79
Moonville-----	20	Not limited		Not limited		Not limited	
41: Ike-----	40	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Droughty Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.49
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Jimbee-----	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Droughty Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.13
42: Ike-----	45	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Droughty Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.49



## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42: Simeroi-----	30	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.30 0.08
Rock outcrop-----	10	Not rated		Not rated		Not rated	
43: Inel-----	35	Very limited Slope Dusty	1.00 0.50	Somewhat limited Slope Dusty	0.56 0.50	Very limited Slope Depth to bedrock Droughty Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.21
Matheson-----	30	Somewhat limited Slope	0.18	Not limited		Very limited Slope	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
44: Inel-----	55	Very limited Slope Dusty	1.00 0.50	Somewhat limited Dusty Slope	0.50 0.08	Very limited Depth to bedrock Slope Carbonate content Droughty Large stones content	1.00 1.00 1.00 0.90 0.26
Slide-----	15	Very limited Slope Dusty	1.00 0.50	Somewhat limited Dusty Slope	0.50 0.08	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.55 0.08
Rock outcrop-----	15	Not rated		Not rated		Not rated	
45: Jimbee-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Droughty Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.13
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Ike-----	15	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Droughty Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.49

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
46: Jimbee-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty Depth to bedrock Carbonate content Large stones content	1.00 1.00 1.00 1.00 0.54
Skibo-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Carbonate content Large stones content Gravel content Droughty	1.00 1.00 0.16 0.11 0.01
Ike-----	15	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Droughty Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.49
47: Justesen-----	45	Not limited		Not limited		Somewhat limited Slope	0.37
Drage-----	40	Not limited		Not limited		Somewhat limited Slope Large stones content	0.84 0.03
48: Ketchum-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Povey-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty Gravel content Large stones content	1.00 0.97 0.01 0.01
49: Kimama-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
50: Klug-----	90	Not limited		Not limited		Somewhat limited Gravel content Slope Droughty Large stones content	0.90 0.16 0.07 0.05

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
51: Klug-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Droughty Large stones content	1.00 0.90 0.07 0.05
Parvis-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.95
52: Lag-----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty	1.00 0.19
53: Lavacreek-----	65	Very limited Slope Dusty Large stones content	1.00 0.50 0.23	Somewhat limited Slope Dusty Large stones content	0.96 0.50 0.23	Very limited Slope Large stones content Gravel content	1.00 1.00 0.21
Dollarhide-----	25	Very limited Slope	1.00	Somewhat limited Slope	0.96	Very limited Slope Droughty Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 1.00 0.20
54: Lavacreek-----	45	Very limited Slope Dusty Large stones content	1.00 0.50 0.23	Very limited Slope Dusty Large stones content	1.00 0.50 0.23	Very limited Slope Large stones content Gravel content	1.00 1.00 0.21
Dollarhide-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 1.00 0.20
Grassycone-----	20	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
55: Lavacreek-----	45	Very limited Slope Dusty Large stones content	1.00 0.50 0.23	Very limited Slope Dusty Large stones content	1.00 0.50 0.23	Very limited Slope Large stones content Gravel content	1.00 1.00 0.21

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
55: Vitale-----	35	Very limited Slope Large stones content	1.00 0.23	Very limited Slope Large stones content	1.00 0.23	Very limited Slope Large stones content Droughty Gravel content Depth to bedrock	1.00 1.00 0.98 0.21 0.20
56: Lava flows-----	100	Not rated		Not rated		Not rated	
57: Lava flows-----	70	Not rated		Not rated		Not rated	
Cinderhurst-----	20	Somewhat limited Large stones content	0.95	Somewhat limited Large stones content	0.95	Very limited Depth to bedrock Large stones content Droughty Slope	1.00 1.00 1.00 0.04
58: Lava flows-----	60	Not rated		Not rated		Not rated	
Pingree-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Droughty Large stones content Gravel content	1.00 1.00 0.03 0.01
59: Leatherman-----	45	Somewhat limited Slope Dusty	0.50 0.50	Somewhat limited Dusty	0.50	Very limited Depth to cemented pan Slope Droughty Depth to bedrock Carbonate content	1.00 1.00 1.00 1.00 1.00
Adek, dry-----	20	Not limited		Not limited		Very limited Carbonate content Slope Droughty Gravel content Large stones content	1.00 0.84 0.31 0.20 0.01
Adek-----	15	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Slope Carbonate content Droughty Gravel content Large stones content	1.00 1.00 0.32 0.20 0.01

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
60: Leatherman-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to cemented pan Droughty Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 0.10
Bluedome-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Depth to bedrock Depth to cemented pan Droughty	1.00 0.97 0.97 0.18
61: Malm-----	60	Not limited		Not limited		Somewhat limited Depth to bedrock	0.01
Bondfarm-----	20	Not limited		Not limited		Very limited Droughty Depth to bedrock Large stones content	1.00 1.00 0.61
Matheson-----	15	Not limited		Not limited		Not limited	
62: Matheson-----	70	Not limited		Not limited		Somewhat limited Slope	0.04
Grassy Butte-----	20	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Somewhat limited Slope Droughty	0.96 0.69
63: McCain-----	65	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock	0.65
Thornock-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Droughty Large stones content	1.00 0.86 0.46
64: McCarey-----	45	Not limited		Not limited		Somewhat limited Depth to bedrock	0.20
Beartrap-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
65: McCarey-----	60	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope Depth to bedrock	0.84 0.20
Beartrap-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope	0.84

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66: McCarey-----	40	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Depth to bedrock Slope	0.20 0.04
Beartrap-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope	0.04
Rock outcrop-----	25	Not rated		Not rated		Not rated	
67: McCarey-----	40	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Depth to bedrock Slope	0.65 0.04
Molyneux-----	25	Not limited		Not limited		Not limited	
Lava flows-----	20	Not rated		Not rated		Not rated	
68: McCarey-----	55	Not limited		Not limited		Somewhat limited Depth to bedrock	0.20
Splittop-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock	0.46
Lava flows-----	15	Not rated		Not rated		Not rated	
69: McCarey-----	45	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Depth to bedrock Slope	0.20 0.04
Vickton-----	20	Not limited		Not limited		Not limited	
Lava flows-----	15	Not rated		Not rated		Not rated	
70: McClenden-----	55	Not limited		Not limited		Not limited	
Thornock-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Droughty Large stones content	1.00 0.86 0.46
71: Medicine-----	60	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Whiteknob-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Droughty	0.31
72: Menan-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73: Mogg-----	45	Very limited Slope Dusty	1.00 0.50	Somewhat limited Slope Dusty	0.96 0.50	Very limited Slope Droughty Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 0.58 0.54
Shagel-----	30	Very limited Slope Large stones content	1.00 0.01	Somewhat limited Slope Large stones content	0.96 0.01	Very limited Slope Depth to bedrock Droughty Large stones content Gravel content	1.00 1.00 1.00 0.99 0.22
74: Mooretown-----	50	Not limited		Not limited		Somewhat limited Flooding Depth to saturated zone	0.60 0.03
Borah-----	40	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Very limited Droughty Depth to saturated zone Flooding	1.00 0.75 0.60
75: Mooretown, drained--	50	Not limited		Not limited		Somewhat limited Flooding	0.60
Borco-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Droughty Gravel content	1.00 0.95
76: Nargon-----	35	Very limited Water erosion Dusty	1.00 0.50	Very limited Water erosion Dusty	1.00 0.50	Somewhat limited Depth to bedrock Slope Large stones content	0.97 0.37 0.01
Atom-----	30	Very limited Water erosion Dusty	1.00 0.50	Very limited Water erosion Dusty	1.00 0.50	Very limited Sodium content Slope	1.00 0.37
Techicknot-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
77: Nargon-----	50	Very limited Water erosion Dusty	1.00 0.50	Very limited Water erosion Dusty	1.00 0.50	Somewhat limited Depth to bedrock Slope Droughty Large stones content	0.99 0.37 0.02 0.01

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77: Deuce-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Droughty Large stones content Slope	1.00 0.61 0.54 0.37
Lava flows-----	10	Not rated		Not rated		Not rated	
78: Nitchly-----	75	Very limited Slope Dusty	1.00 0.50	Somewhat limited Slope Dusty	0.56 0.50	Very limited Slope Carbonate content Large stones content Gravel content	1.00 1.00 0.46 0.08
79: Nurkey-----	50	Somewhat limited Slope	0.18	Not limited		Very limited Slope Large stones content Gravel content	1.00 0.26 0.06
Dacont-----	30	Somewhat limited Dusty Slope	0.50 0.18	Somewhat limited Dusty	0.50	Very limited Slope Gravel content	1.00 0.01
80: Nurkey-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Large stones content Gravel content	1.00 0.26 0.06
Dacont-----	35	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Gravel content	1.00 0.01
81: Nurkey-----	80	Somewhat limited Slope	0.50	Not limited		Very limited Slope Gravel content Large stones content	1.00 0.10 0.08
Nurkey, low precipitation-----	20	Somewhat limited Slope	0.50	Not limited		Very limited Slope Gravel content Large stones content	1.00 0.13 0.03



## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
82: Calclids-----	50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Large stones content Droughty Gravel content	1.00 0.84 0.69 0.14
Rubble land-----	20	Not rated		Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated		Not rated	
83: Packmo-----	50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Droughty Gravel content Slope Large stones content	0.54 0.45 0.16 0.08
Snowslide-----	40	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Droughty Gravel content Slope Large stones content	0.88 0.47 0.16 0.01
84: Paint-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to cemented pan Depth to bedrock Droughty Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.39
Fallert-----	40	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content Large stones content Slope	1.00 0.92 0.54 0.01 0.01
85: Paint-----	65	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to cemented pan Droughty Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.08
Whitecloud-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content	1.00 0.76 0.12

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
86: Pancheri-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
87: Pancheri-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Polatis-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock	0.01
88: Playas-----	100	Not rated		Not rated		Not rated	
89: Polatis-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock	0.16
90: Portino-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock	0.54
Thornock-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Droughty Large stones content	1.00 0.86 0.46
91: Riverlost-----	45	Somewhat limited Slope Large stones content	0.92 0.01	Somewhat limited Large stones content	0.01	Very limited Slope Large stones content	1.00 0.95
Frymire-----	40	Very limited Slope Large stones content	1.00 0.08	Somewhat limited Slope Large stones content	0.56 0.08	Very limited Slope Large stones content Droughty	1.00 1.00 0.07
92: Riverlost-----	60	Somewhat limited Slope Large stones content	0.92 0.01	Somewhat limited Large stones content	0.01	Very limited Slope Large stones content	1.00 0.95
Grouseville-----	20	Very limited Slope	1.00	Somewhat limited Slope	0.96	Very limited Slope	1.00
93: Riverlost-----	55	Somewhat limited Slope Large stones content	0.92 0.01	Somewhat limited Large stones content	0.01	Very limited Slope Large stones content	1.00 0.95
Soen-----	30	Very limited Water erosion Slope	1.00 0.18	Very limited Water erosion	1.00	Very limited Slope	1.00

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
94: Rubble land-----	40	Not rated		Not rated		Not rated	
Milligan-----	35	Very limited Slope Large stones content	1.00 0.65	Very limited Slope Large stones content	1.00 0.65	Very limited Slope Large stones content Droughty Depth to bedrock	1.00 1.00 0.55 0.01
95: Sanfelipe-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content	1.00 0.04 0.01
96: Sanfelipe-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Slope Droughty Gravel content	1.00 0.16 0.04 0.01
97: Sanfelipe-----	65	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content	1.00
McCaleb-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content	1.00
98: Sanfelipe-----	70	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content	1.00 0.04 0.01
Simeroi-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content	1.00 0.30 0.08
99: Simeroi-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content	1.00 0.30 0.08
100: Simeroi-----	75	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content Slope	1.00 0.30 0.08 0.04
101: Simeroi-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Slope Gravel content	1.00 0.30 0.16 0.08

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
102: Simeroi, cool-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Slope Droughty Gravel content	1.00 0.96 0.30 0.08
103: Simeroi, dry-----	80	Somewhat limited Slope Dusty	0.50 0.50	Somewhat limited Dusty	0.50	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.30 0.08
104: Simeroi-----	60	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content	1.00 0.30 0.08
Paint-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to cemented pan Depth to bedrock Carbonate content Droughty Gravel content	1.00 1.00 1.00 0.99 0.39
105: Simeroi, dry-----	50	Somewhat limited Dusty Slope	0.50 0.18	Somewhat limited Dusty	0.50	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.30 0.08
Simeroi-----	30	Somewhat limited Dusty Slope	0.50 0.18	Somewhat limited Dusty	0.50	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.30 0.08
106: Simeroi-----	60	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content Slope	1.00 0.30 0.08 0.01
Sparmo-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope	0.01
107: Simeroi-----	40	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content	1.00 0.30 0.08

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
107: Slide-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content	1.00 0.29 0.08
McCaleb-----	15	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content	1.00
108: Simeroi-----	40	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.30 0.08
Bealand-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Carbonate content Gravel content	1.00 1.00 0.26
109: Slide-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content	1.00 0.29 0.08
110: Snowslide-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Droughty Gravel content Large stones content	0.90 0.47 0.01
111: Snowslide-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Droughty Gravel content Large stones content	0.84 0.80 0.47 0.01
112: Snowslide-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Droughty Gravel content Large stones content	0.94 0.47 0.01
Zer-----	15	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Droughty	0.07
113: Snowslide-----	35	Somewhat limited Slope Dusty	0.50 0.50	Somewhat limited Dusty	0.50	Very limited Droughty Slope Gravel content Large stones content	1.00 1.00 0.47 0.01

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113: Zer-----	30	Somewhat limited Slope Dusty	0.50 0.50	Somewhat limited Dusty	0.50	Very limited Slope Droughty	1.00 0.07
Snowslide, low precipitation-----	20	Somewhat limited Slope Dusty	0.50 0.50	Somewhat limited Dusty	0.50	Very limited Slope Droughty Gravel content Large stones content	1.00 0.99 0.47 0.01
114: Soen-----	80	Not limited		Not limited		Not limited	
115: Soen-----	70	Not limited		Not limited		Somewhat limited Slope	0.01
Justesen-----	25	Not limited		Not limited		Somewhat limited Slope	0.01
116: Sparmo-----	75	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
117: Sparmo-----	50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Bluedome-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Depth to bedrock Depth to cemented pan Droughty	1.00 0.95 0.95 0.07
118: Sparmo-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Zer-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Droughty	0.54
119: Splittop-----	50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock Droughty	0.29 0.09
Atomic-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
120: Splittop-----	50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock Droughty	0.29 0.09

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
120: Coffee-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Sodium content Salinity	1.00 0.50
121: Stan-----	95	Not limited		Not limited		Not limited	
122: Stan-----	55	Not limited		Not limited		Not limited	
Breitenbach-----	30	Not limited		Not limited		Not limited	
123: Stan, loamy fine sand surface-----	70	Somewhat limited Too sandy	0.94	Somewhat limited Too sandy	0.94	Not limited	
Stan-----	25	Not limited		Not limited		Not limited	
124: Starlite-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content	1.00
125: Techick-----	50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Soelberg-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
126: Techick-----	40	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Soelberg-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Lesbut-----	15	Not limited		Not limited		Somewhat limited Droughty Gravel content	0.46 0.05
127: Techicknot-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Atom-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Sodium content	1.00
Nargon-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock Large stones content	0.97 0.01
128: Tenno-----	50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Droughty Large stones content	1.00 0.35 0.01

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
128: Splittop-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock	0.16
Lava flows-----	15	Not rated		Not rated		Not rated	
129: Tenno-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Droughty Large stones content	1.00 0.35 0.01
Splittop-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock	0.46
McCarey-----	20	Not limited		Not limited		Somewhat limited Depth to bedrock Droughty	0.99 0.01
130: Thornock-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Droughty Large stones content	1.00 0.86 0.46
Portino-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock	0.54
131: Thornock-----	50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to bedrock Droughty Large stones content Slope	1.00 0.86 0.46 0.16
Portino-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock Slope	0.54 0.16
132: Thosand-----	50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Carbonate content Ponding Flooding Salinity	1.00 1.00 1.00 0.60 0.50
Sanocrane-----	25	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00



## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
133: Truesdale-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock Depth to cemented pan Droughty	0.99 0.99 0.28
Minidoka-----	40	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock Depth to cemented pan	0.54 0.54
134: Vitale-----	45	Very limited Slope Large stones content	1.00 0.23	Somewhat limited Slope Large stones content	0.56 0.23	Very limited Large stones content Slope Droughty Gravel content Depth to bedrock	1.00 1.00 0.98 0.21 0.20
Blackspar-----	35	Very limited Slope Large stones content	1.00 0.35	Somewhat limited Slope Large stones content	0.78 0.35	Very limited Droughty Depth to bedrock Large stones content Slope Gravel content	1.00 1.00 1.00 1.00 0.01
135: Whitecloud-----	75	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content	1.00 0.54 0.12
136: Whitecloud-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Gravel content	1.00 0.43 0.12
Sanfelipe-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content Droughty Large stones content Gravel content	1.00 0.06 0.01 0.01
137: Zeale-----	70	Not limited		Not limited		Very limited Carbonate content Droughty Slope Gravel content	1.00 0.42 0.37 0.19

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
137: Zeale, high precipitation-----	25	Not limited		Not limited		Very limited Carbonate content Slope Droughty Gravel content	1.00 0.37 0.19 0.19
138: Zeale-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.42 0.19
Zeale, high precipitation-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.19 0.19
139: Zeale-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Carbonate content Gravel content Droughty	1.00 1.00 0.19 0.16
Coalkiln-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Carbonate content	1.00 1.00
Jimbee-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.51
140: Zeebar, cool-----	55	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Slope	1.00
Zeebar-----	30	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Slope	1.00
141: Zeebar-----	40	Very limited Slope	1.00	Somewhat limited Slope	0.56	Very limited Slope Droughty	1.00 0.22
Parvis-----	25	Very limited Slope	1.00	Somewhat limited Slope	0.96	Very limited Slope Gravel content	1.00 0.95

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
141: Howcan-----	20	Very limited Slope	1.00	Somewhat limited Slope	0.96	Very limited Slope Droughty Large stones content	1.00 0.20 0.03
142: Zer-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
143: Zer-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Droughty Gravel content Slope	0.66 0.03 0.01
144: Zer-----	95	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Slope Large stones content Droughty	0.72 0.63 0.46 0.38
145: Zer-----	80	Very limited Slope Dusty	1.00 0.50	Somewhat limited Slope Dusty	0.78 0.50	Very limited Slope Droughty Gravel content	1.00 0.79 0.01
146: Zer-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Droughty	0.16 0.15
Snowslide-----	40	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Slope Large stones content Droughty	0.47 0.16 0.01 0.01
147: Zer-----	65	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Droughty	0.15
Whiteknob-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Droughty	0.84 0.80
148: Mooretown-----	45	Not limited		Not limited		Somewhat limited Flooding Depth to saturated zone	0.60 0.03

## Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
148: Blackfoot-----	25	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.03
Borah-----	20	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Droughty Depth to saturated zone Flooding	0.99 0.75 0.60
149: Drage, cool-----	85	Not limited		Not limited		Somewhat limited Droughty Large stones content Slope	0.07 0.05 0.04
150: Vitale-----	45	Very limited Slope Large stones content	1.00 0.23	Very limited Slope Large stones content	1.00 0.23	Very limited Slope Large stones content Droughty Depth to bedrock Gravel content	1.00 1.00 1.00 0.95 0.21
Blackspar-----	35	Very limited Slope Large stones content	1.00 0.35	Very limited Slope Large stones content	1.00 0.35	Very limited Slope Droughty Depth to bedrock Large stones content Gravel content	1.00 1.00 1.00 1.00 0.01

## Dwellings and Small Commercial Buildings

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1: Arco-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.98 0.50	Very limited Flooding Shrink-swell	1.00 0.50
2: Atom-----	80	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
3: Atom-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.50 0.50
4: Atom-----	50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Splittop-----	40	Somewhat limited Depth to hard bedrock	0.15	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to hard bedrock	0.15
5: Bealand-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Zeale-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
6: Blackfoot-----	85	Somewhat limited Depth to saturated zone	0.20	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.20
7: Bluedome-----	80	Not limited		Somewhat limited Depth to thin cemented pan	0.06	Not limited	
8: Bluedome-----	50	Not limited		Somewhat limited Depth to thin cemented pan	0.65	Not limited	
McCaleb-----	30	Not limited		Not limited		Not limited	
9: Bockston-----	80	Not limited		Not limited		Not limited	
10: Breitenbach-----	80	Not limited		Not limited		Not limited	

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
11: Breitenbach-----	65	Not limited		Not limited		Not limited	
Stan-----	25	Not limited		Not limited		Not limited	
12: Buist-----	90	Not limited		Not limited		Somewhat limited Slope	0.88
13: Bunting-----	95	Not limited		Not limited		Not limited	
14: Coffee-----	80	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to hard bedrock Shrink-swell	0.61 0.50	Somewhat limited Shrink-swell	0.50
15: Coffee-----	45	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Depth to hard bedrock Shrink-swell	0.63 0.61 0.50	Very limited Slope Shrink-swell	1.00 0.50
Nargon-----	30	Somewhat limited Depth to hard bedrock Slope	0.97 0.63	Very limited Depth to hard bedrock Slope	1.00 0.63	Very limited Slope Depth to hard bedrock	1.00 0.97
16: Coffee-----	30	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to hard bedrock Shrink-swell	0.61 0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
Nargon-----	30	Somewhat limited Depth to hard bedrock	0.97	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to hard bedrock Slope	0.97 0.88
Atom-----	15	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
17: Cronks-----	40	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.16	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.16	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.16
Dacont-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
18: Crooked Creek-----	85	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.35	Very limited Shrink-swell	1.00

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
19: Cryoborolls-----	50	Very limited Slope Large stones content	1.00 0.89	Very limited Slope Large stones content	1.00 0.89	Very limited Slope Large stones content	1.00 0.89
Rubble land-----	20	Not rated		Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated		Not rated	
20: Darlington-----	60	Not limited		Not limited		Not limited	
Lesbut-----	35	Not limited		Not limited		Not limited	
21: Denied access-----	100	Not rated		Not rated		Not rated	
22: Deuce-----	45	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 0.88 0.50
Nargon-----	20	Somewhat limited Depth to hard bedrock	0.97	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to hard bedrock Slope	0.97 0.88
Lava flows-----	15	Not rated		Not rated		Not rated	
23: Deuce-----	35	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50
Nargon-----	20	Very limited Slope Depth to hard bedrock	1.00 0.99	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 0.99
Lava flows-----	20	Not rated		Not rated		Not rated	
24: Dickeypeak-----	50	Not limited		Somewhat limited Depth to saturated zone	0.99	Not limited	
Bigrant-----	40	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25: Donkehill-----	85	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50
26: Dredge-----	80	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
27: Elbow-----	80	Not limited		Somewhat limited Depth to thin cemented pan	0.95	Not limited	
28: Fallert-----	80	Not limited		Not limited		Somewhat limited Slope	0.12
29: Fallert, dry-----	80	Not limited		Not limited		Not limited	
30: Fandow-----	80	Somewhat limited Depth to thin cemented pan	0.50	Very limited Depth to thin cemented pan	1.00	Somewhat limited Depth to thin cemented pan	1.00
31: Fulwider, high precipitation-----	40	Somewhat limited Slope Depth to thin cemented pan	0.96 0.50	Very limited Depth to thin cemented pan Slope	1.00 0.96	Very limited Depth to thin cemented pan Slope	1.00 1.00
Fulwider, low precipitation-----	30	Somewhat limited Slope Depth to thin cemented pan	0.96 0.50	Very limited Depth to thin cemented pan Slope	1.00 0.96	Very limited Depth to thin cemented pan Slope	1.00 1.00
Fulwider-----	15	Somewhat limited Slope Depth to thin cemented pan	0.96 0.50	Very limited Depth to thin cemented pan Slope	1.00 0.96	Very limited Depth to thin cemented pan Slope	1.00 1.00
32: Goosebury, high precipitation-----	90	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
33: Goosebury-----	80	Not limited		Not limited		Somewhat limited Slope	0.12
34: Goosebury, low precipitation-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00



## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34: Goosebury, high precipitation-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
35: Hagenbarth-----	30	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Howcan-----	25	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content Depth to hard bedrock	1.00 1.00 0.13	Very limited Slope Large stones content	1.00 1.00
Jonda-----	20	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content	1.00 1.00
36: Hal-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Moonville-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
37: Hondoho-----	85	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Large stones content	1.00 0.01
38: Howcan-----	50	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content Depth to hard bedrock	1.00 1.00 0.13	Very limited Slope Large stones content	1.00 1.00
Hutchley-----	35	Very limited Slope Depth to hard bedrock Shrink-swell Large stones content	1.00 1.00 0.50 0.06	Very limited Slope Depth to hard bedrock Shrink-swell Large stones content	1.00 1.00 0.50 0.06	Very limited Slope Depth to hard bedrock Shrink-swell Large stones content	1.00 1.00 0.50 0.06
Rock outcrop-----	10	Not rated		Not rated		Not rated	
39: Howcan-----	35	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content Depth to hard bedrock	1.00 1.00 0.13	Very limited Slope Large stones content	1.00 1.00

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39: Zeebar-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hutchley-----	20	Very limited Slope Depth to hard bedrock Shrink-swell Large stones content	1.00 1.00 0.50 0.06	Very limited Slope Depth to hard bedrock Shrink-swell Large stones content	1.00 1.00 0.50 0.06	Very limited Slope Depth to hard bedrock Shrink-swell Large stones content	1.00 1.00 0.50 0.06
40: Huddle-----	65	Not limited		Somewhat limited Depth to hard bedrock	0.42	Somewhat limited Slope	0.88
Moonville-----	20	Not limited		Not limited		Somewhat limited Slope	0.88
41: Ike-----	40	Very limited Depth to hard bedrock Slope Large stones content	1.00 1.00 0.70	Very limited Depth to hard bedrock Slope Large stones content	1.00 1.00 0.70	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.70
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Jimbee-----	15	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
42: Ike-----	45	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.70	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.70	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.70
Simeroi-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop-----	10	Not rated		Not rated		Not rated	
43: Inel-----	35	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.15	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.15	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.15
Matheson-----	30	Very limited Slope	1.00	Very limited Slope Depth to hard bedrock	1.00 0.84	Very limited Slope	1.00

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43: Rock outcrop-----	25	Not rated		Not rated		Not rated	
44: Inel-----	55	Very limited Depth to hard bedrock Slope Large stones content	1.00 1.00 0.01	Very limited Depth to hard bedrock Slope Large stones content	1.00 1.00 0.01	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.01
Slide-----	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
45: Jimbee-----	40	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Ike-----	15	Very limited Depth to hard bedrock Slope Large stones content	1.00 1.00 0.70	Very limited Depth to hard bedrock Slope Large stones content	1.00 1.00 0.70	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.70
46: Jimbee-----	40	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.01	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.01	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.01
Skibo-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Ike-----	15	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.70	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.70	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.70
47: Justesen-----	45	Somewhat limited Shrink-swell Slope	0.50 0.37	Somewhat limited Slope	0.37	Very limited Slope Shrink-swell	1.00 0.50
Drage-----	40	Somewhat limited Slope Shrink-swell Large stones content	0.84 0.50 0.07	Somewhat limited Slope Large stones content	0.84 0.07	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.07

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
48: Ketchum-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Povey-----	30	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content Depth to hard bedrock	1.00 1.00 0.08	Very limited Slope Large stones content	1.00 1.00
49: Kimama-----	90	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
50: Klug-----	90	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
51: Klug-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Parvis-----	20	Very limited Slope Large stones content	1.00 0.79	Very limited Slope Large stones content	1.00 0.79	Very limited Slope Large stones content	1.00 0.79
52: Lag-----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
53: Lavacreek-----	65	Very limited Slope Large stones content	1.00 0.80	Very limited Slope Large stones content	1.00 0.80	Very limited Slope Large stones content	1.00 0.80
Dollarhide-----	25	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
54: Lavacreek-----	45	Very limited Slope Large stones content	1.00 0.80	Very limited Slope Large stones content	1.00 0.80	Very limited Slope Large stones content	1.00 0.80
Dollarhide-----	20	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
Grassycone-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
55: Lavacreek-----	45	Very limited Slope Large stones content	1.00 0.80	Very limited Slope Large stones content	1.00 0.80	Very limited Slope Large stones content	1.00 0.80
Vitale-----	35	Very limited Slope Large stones content Shrink-swell Depth to hard bedrock	1.00 1.00 0.50 0.20	Very limited Slope Depth to hard bedrock Large stones content Shrink-swell	1.00 1.00 1.00 0.50	Very limited Slope Large stones content Shrink-swell Depth to hard bedrock	1.00 1.00 0.50 0.20
56: Lava flows-----	100	Not rated		Not rated		Not rated	
57: Lava flows-----	70	Not rated		Not rated		Not rated	
Cinderhurst-----	20	Very limited Depth to hard bedrock Large stones content Slope	1.00 1.00 0.04	Very limited Depth to hard bedrock Large stones content Slope	1.00 1.00 0.04	Very limited Depth to hard bedrock Large stones content Slope	1.00 1.00 1.00
58: Lava flows-----	60	Not rated		Not rated		Not rated	
Pingree-----	35	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00
59: Leatherman-----	45	Very limited Slope Depth to thin cemented pan	1.00 0.50	Very limited Slope Depth to thin cemented pan	1.00 1.00	Very limited Slope Depth to thin cemented pan	1.00 1.00
Adek, dry-----	20	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
Adek-----	15	Very limited Slope Large stones content	1.00 0.50	Very limited Slope Large stones content	1.00 0.50	Very limited Slope Large stones content	1.00 0.50
60: Leatherman-----	45	Somewhat limited Depth to thin cemented pan	0.50	Very limited Depth to thin cemented pan	1.00	Somewhat limited Depth to thin cemented pan Slope	1.00 0.12
Bluedome-----	30	Not limited		Somewhat limited Depth to thin cemented pan	0.97	Somewhat limited Slope	0.12

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
61: Malm-----	60	Somewhat limited Depth to hard bedrock	0.01	Very limited Depth to hard bedrock	1.00	Somewhat limited Slope Depth to hard bedrock	0.12 0.01
Bondfarm-----	20	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00 0.12
Matheson-----	15	Not limited		Somewhat limited Depth to hard bedrock	0.84	Somewhat limited Slope	0.12
62: Matheson-----	70	Somewhat limited Slope	0.04	Somewhat limited Depth to hard bedrock Slope	0.84 0.04	Very limited Slope	1.00
Grassy Butte-----	20	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
63: McCain-----	65	Somewhat limited Depth to hard bedrock Shrink-swell	0.64 0.50	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Somewhat limited Depth to hard bedrock Shrink-swell	0.64 0.50
Thornock-----	20	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00
64: McCarey-----	45	Somewhat limited Depth to hard bedrock	0.20	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to hard bedrock	0.20
Beartrap-----	35	Not limited		Somewhat limited Depth to hard bedrock	0.26	Not limited	
65: McCarey-----	60	Somewhat limited Slope Depth to hard bedrock	0.84 0.20	Very limited Depth to hard bedrock Slope	1.00 0.84	Very limited Slope Depth to hard bedrock	1.00 0.20
Beartrap-----	25	Somewhat limited Slope	0.84	Somewhat limited Slope Depth to hard bedrock	0.84 0.26	Very limited Slope	1.00
66: McCarey-----	40	Somewhat limited Depth to hard bedrock Slope	0.20 0.04	Very limited Depth to hard bedrock Slope	1.00 0.04	Very limited Slope Depth to hard bedrock	1.00 0.20

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66: Beartrap-----	30	Somewhat limited Slope	0.04	Somewhat limited Depth to hard bedrock Slope	0.26 0.04	Very limited Slope	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
67: McCarey-----	40	Somewhat limited Depth to hard bedrock Shrink-swell Slope	0.64 0.50 0.04	Very limited Depth to hard bedrock Shrink-swell Slope	1.00 0.50 0.04	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 0.64 0.50
Molyneux-----	25	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
Lava flows-----	20	Not rated		Not rated		Not rated	
68: McCarey-----	55	Somewhat limited Depth to hard bedrock	0.20	Very limited Depth to hard bedrock	1.00	Somewhat limited Slope Depth to hard bedrock	0.50 0.20
Splittop-----	20	Somewhat limited Depth to hard bedrock	0.46	Very limited Depth to hard bedrock	1.00	Somewhat limited Slope Depth to hard bedrock	0.50 0.46
Lava flows-----	15	Not rated		Not rated		Not rated	
69: McCarey-----	45	Somewhat limited Depth to hard bedrock Slope	0.20 0.04	Very limited Depth to hard bedrock Slope	1.00 0.04	Very limited Slope Depth to hard bedrock	1.00 0.20
Vickton-----	20	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to hard bedrock	0.50 0.01	Somewhat limited Slope Shrink-swell	0.50 0.50
Lava flows-----	15	Not rated		Not rated		Not rated	
70: McClenden-----	55	Not limited		Somewhat limited Depth to hard bedrock	0.18	Not limited	
Thornock-----	20	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00
71: Medicine-----	60	Not limited		Not limited		Not limited	

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
71: Whiteknob-----	25	Not limited		Not limited		Not limited	
72: Menan-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
73: Mogg-----	45	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.19	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.19	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.19
Shagel-----	30	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.09	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.09	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.09
74: Mooretown-----	50	Very limited Flooding Depth to saturated zone	1.00 0.07	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.07
Borah-----	40	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98
75: Mooretown, drained--	50	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
Borco-----	30	Not limited		Not limited		Not limited	
76: Nargon-----	35	Somewhat limited Depth to hard bedrock Slope	0.97 0.37	Very limited Depth to hard bedrock Slope	1.00 0.37	Very limited Slope Depth to hard bedrock	1.00 0.97
Atom-----	30	Somewhat limited Shrink-swell Slope	0.50 0.37	Somewhat limited Shrink-swell Slope	0.50 0.37	Very limited Slope Shrink-swell	1.00 0.50
Techicknot-----	25	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.50 0.50
77: Nargon-----	50	Somewhat limited Depth to hard bedrock Slope	0.99 0.37	Very limited Depth to hard bedrock Slope	1.00 0.37	Very limited Slope Depth to hard bedrock	1.00 0.99



## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77: Deuce-----	20	Very limited Depth to hard bedrock Shrink-swell Slope	1.00 0.50 0.37	Very limited Depth to hard bedrock Shrink-swell Slope	1.00 0.50 0.37	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50
Lava flows-----	10	Not rated		Not rated		Not rated	
78: Nitchly-----	75	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
79: Nurkey-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Dacont-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
80: Nurkey-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Dacont-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
81: Nurkey-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Nurkey, low precipitation-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
82: Calcids-----	50	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Large stones content	1.00 0.01
Rubble land-----	20	Not rated		Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated		Not rated	
83: Packmo-----	50	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Snowslide-----	40	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
84: Paint-----	45	Somewhat limited Depth to thin cemented pan Slope	0.50 0.01	Very limited Depth to thin cemented pan Slope	1.00 0.01	Very limited Depth to thin cemented pan Slope	1.00 1.00

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
84: Fallert-----	40	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
85: Paint-----	65	Somewhat limited Depth to thin cemented pan	0.50	Very limited Depth to thin cemented pan	1.00	Somewhat limited Depth to thin cemented pan	1.00
Whitecloud-----	20	Not limited		Not limited		Not limited	
86: Pancheri-----	80	Not limited		Not limited		Somewhat limited Slope	0.12
87: Pancheri-----	45	Not limited		Not limited		Somewhat limited Slope	0.88
Polatis-----	30	Somewhat limited Depth to hard bedrock	0.01	Very limited Depth to hard bedrock	1.00	Somewhat limited Slope Depth to hard bedrock	0.88 0.01
88: Playas-----	100	Not rated		Not rated		Not rated	
89: Polatis-----	90	Somewhat limited Depth to hard bedrock	0.15	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to hard bedrock	0.15
90: Portino-----	55	Somewhat limited Depth to hard bedrock	0.54	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to hard bedrock	0.54
Thornock-----	30	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00
91: Riverlost-----	45	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Frymire-----	40	Very limited Slope Shrink-swell Large stones content	1.00 1.00 1.00	Very limited Slope Shrink-swell Large stones content	1.00 1.00 1.00	Very limited Slope Shrink-swell Large stones content	1.00 1.00 1.00
92: Riverlost-----	60	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Grouseville-----	20	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 1.00	Very limited Slope Shrink-swell	1.00 0.50

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
93: Riverlost-----	55	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Soen-----	30	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
94: Rubble land-----	40	Not rated		Not rated		Not rated	
Milligan-----	35	Very limited Slope Large stones content Depth to hard bedrock	1.00 1.00 0.01	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 1.00	Very limited Slope Large stones content Depth to hard bedrock	1.00 1.00 0.01
95: Sanfelipe-----	85	Not limited		Not limited		Somewhat limited Slope	0.50
96: Sanfelipe-----	90	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
97: Sanfelipe-----	65	Not limited		Not limited		Not limited	
McCaleb-----	25	Not limited		Not limited		Not limited	
98: Sanfelipe-----	70	Not limited		Not limited		Not limited	
Simeroi-----	20	Not limited		Not limited		Not limited	
99: Simeroi-----	85	Not limited		Not limited		Not limited	
100: Simeroi-----	75	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
101: Simeroi-----	85	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
102: Simeroi, cool-----	85	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
103: Simeroi, dry-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
104: Simeroi-----	60	Not limited		Not limited		Somewhat limited Slope	0.12

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
104: Paint-----	25	Somewhat limited Depth to thin cemented pan	0.50	Very limited Depth to thin cemented pan	1.00	Somewhat limited Depth to thin cemented pan Slope	1.00 0.12
105: Simeroi, dry-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Simeroi-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
106: Simeroi-----	60	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
Sparmo-----	25	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
107: Simeroi-----	40	Not limited		Not limited		Not limited	
Slide-----	35	Not limited		Not limited		Not limited	
McCaleb-----	15	Not limited		Not limited		Not limited	
108: Simeroi-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Bealand-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
109: Slide-----	80	Not limited		Not limited		Somewhat limited Slope	0.50
110: Snowslide-----	80	Not limited		Not limited		Somewhat limited Slope	0.50
111: Snowslide-----	85	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
112: Snowslide-----	80	Not limited		Not limited		Not limited	
Zer-----	15	Not limited		Not limited		Not limited	
113: Snowslide-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Zer-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113: Snowslide, low precipitation-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
114: Soen-----	80	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
115: Soen-----	70	Somewhat limited Shrink-swell Slope	0.50 0.01	Somewhat limited Shrink-swell Slope	0.50 0.01	Very limited Slope Shrink-swell	1.00 0.50
Justesen-----	25	Somewhat limited Shrink-swell Slope	0.50 0.01	Somewhat limited Slope	0.01	Very limited Slope Shrink-swell	1.00 0.50
116: Sparmo-----	75	Not limited		Not limited		Not limited	
117: Sparmo-----	50	Not limited		Not limited		Not limited	
Bluedome-----	35	Not limited		Somewhat limited Depth to thin cemented pan	0.95	Not limited	
118: Sparmo-----	45	Not limited		Not limited		Not limited	
Zer-----	45	Not limited		Not limited		Not limited	
119: Splittop-----	50	Somewhat limited Depth to hard bedrock	0.29	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to hard bedrock	0.29
Atomic-----	30	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to hard bedrock Shrink-swell	0.77 0.50	Somewhat limited Shrink-swell	0.50
120: Splittop-----	50	Somewhat limited Depth to hard bedrock	0.29	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to hard bedrock	0.29
Coffee-----	30	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to hard bedrock Shrink-swell	0.61 0.50	Somewhat limited Shrink-swell	0.50
121: Stan-----	95	Not limited		Not limited		Not limited	
122: Stan-----	55	Not limited		Not limited		Not limited	

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
122: Breitenbach-----	30	Not limited		Not limited		Not limited	
123: Stan, loamy fine sand surface-----	70	Not limited		Not limited		Not limited	
Stan-----	25	Not limited		Not limited		Not limited	
124: Starlite-----	80	Not limited		Not limited		Not limited	
125: Techick-----	50	Not limited		Not limited		Somewhat limited Slope	0.50
Soelberg-----	45	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Slope Shrink-swell	0.50 0.50
126: Techick-----	40	Not limited		Not limited		Not limited	
Soelberg-----	35	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
Lesbut-----	15	Not limited		Not limited		Not limited	
127: Techicknot-----	45	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.50 0.50
Atom-----	25	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
Nargon-----	20	Somewhat limited Depth to hard bedrock	0.97	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to hard bedrock Slope	0.97 0.88
128: Tenno-----	50	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00 0.50
Splittop-----	25	Somewhat limited Depth to hard bedrock	0.15	Very limited Depth to hard bedrock	1.00	Somewhat limited Slope Depth to hard bedrock	0.50 0.15
Lava flows-----	15	Not rated		Not rated		Not rated	
129: Tenno-----	45	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129: Splittop-----	25	Somewhat limited Depth to hard bedrock	0.46	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to hard bedrock	0.46
McCarey-----	20	Somewhat limited Depth to hard bedrock Shrink-swell	0.99 0.50	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Somewhat limited Depth to hard bedrock Shrink-swell	0.99 0.50
130: Thornock-----	45	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00 0.50
Portino-----	35	Somewhat limited Depth to hard bedrock	0.54	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to hard bedrock Slope	0.54 0.50
131: Thornock-----	50	Very limited Depth to hard bedrock Slope	1.00 0.16	Very limited Depth to hard bedrock Slope	1.00 0.16	Very limited Slope Depth to hard bedrock	1.00 1.00
Portino-----	25	Somewhat limited Depth to hard bedrock Slope	0.54 0.16	Very limited Depth to hard bedrock Slope	1.00 0.16	Very limited Slope Depth to hard bedrock	1.00 0.54
132: Thosand-----	50	Very limited Flooding Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50
San crane-----	25	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50
133: Truesdale-----	45	Not limited		Somewhat limited Depth to thin cemented pan Depth to hard bedrock	0.99 0.02	Not limited	
Minidoka-----	40	Not limited		Somewhat limited Depth to thin cemented pan	0.54	Not limited	

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
134: Vitale-----	45	Very limited Large stones content Slope Shrink-swell Depth to hard bedrock	1.00  1.00 0.50 0.20	Very limited Depth to hard bedrock Large stones content Slope Shrink-swell	1.00  1.00 1.00 0.50	Very limited Slope Large stones content Shrink-swell Depth to hard bedrock	1.00  1.00 0.50 0.20
Blackspar-----	35	Very limited Depth to hard bedrock Slope Large stones content	1.00  1.00 0.99	Very limited Depth to hard bedrock Slope Large stones content	1.00  1.00 0.99	Very limited Slope Depth to hard bedrock Large stones content	1.00  1.00 0.99
135: Whitecloud-----	75	Not limited		Not limited		Not limited	
136: Whitecloud-----	55	Not limited		Not limited		Not limited	
Sanfelipe-----	25	Not limited		Not limited		Not limited	
137: Zeale-----	70	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
Zeale, high precipitation-----	25	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
138: Zeale-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Zeale, high precipitation-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
139: Zeale-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Coalkiln-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Jimbee-----	25	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
140: Zeebar, cool-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Zeebar-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00



## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
141: Zeebar-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Parvis-----	25	Very limited Slope Large stones content	1.00 0.79	Very limited Slope Large stones content	1.00 0.79	Very limited Slope Large stones content	1.00 0.79
Howcan-----	20	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content Depth to hard bedrock	1.00 1.00 0.13	Very limited Slope Large stones content	1.00 1.00
142: Zer-----	85	Not limited		Not limited		Not limited	
143: Zer-----	85	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
144: Zer-----	95	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
145: Zer-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
146: Zer-----	45	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Snowslide-----	40	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
147: Zer-----	65	Not limited		Not limited		Not limited	
Whiteknob-----	25	Not limited		Not limited		Not limited	
148: Mooretown-----	45	Very limited Flooding Depth to saturated zone	1.00 0.07	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.07
Blackfoot-----	25	Somewhat limited Depth to saturated zone	0.07	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.07
Borah-----	20	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98

## Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
149: Drage, cool-----	85	Somewhat limited Shrink-swell Large stones content Slope	0.50 0.07 0.04	Somewhat limited Large stones content Slope	0.07 0.04	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.07
150: Vitale-----	45	Very limited Slope Large stones content Depth to hard bedrock	1.00 1.00 0.95	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 1.00	Very limited Slope Large stones content Depth to hard bedrock	1.00 1.00 0.95
Blackspar-----	35	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.89	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.89	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 0.89

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1: Arco-----	85	Very limited Frost action Flooding Low strength Shrink-swell	1.00 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Flooding Cutbanks cave	0.98  0.60 0.10	Somewhat limited Flooding	0.60
2: Atom-----	80	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Very limited Sodium content	1.00
3: Atom-----	85	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Very limited Sodium content	1.00
4: Atom-----	50	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Very limited Sodium content	1.00
Splitstop-----	40	Very limited Low strength Depth to hard bedrock	1.00 0.15	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock	0.16
5: Bealand-----	60	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Carbonate content Gravel content	1.00 1.00 0.26
Zeale-----	25	Very limited Slope Frost action	1.00 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Carbonate content Gravel content Droughty	1.00 1.00 0.19 0.11
6: Blackfoot-----	85	Very limited Frost action Low strength Depth to saturated zone	1.00 0.78 0.10	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.10
7: Bluedome-----	80	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to thin cemented pan	1.00 0.06	Very limited Carbonate content Depth to bedrock Depth to cemented pan	1.00 0.06 0.06

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8: Bluedome-----	50	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to thin cemented pan	1.00 0.65	Very limited Carbonate content Depth to bedrock Depth to cemented pan	1.00 0.65 0.64
McCaleb-----	30	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
9: Bockston-----	80	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
10: Breitenbach-----	80	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Gravel content Droughty	0.70 0.08
11: Breitenbach-----	65	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Stan-----	25	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.32
12: Buist-----	90	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Gravel content Droughty	0.95 0.02
13: Bunting-----	95	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty Large stones content	0.49 0.01
14: Coffee-----	80	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Depth to hard bedrock Cutbanks cave	0.61 0.10	Very limited Sodium content Salinity	1.00 0.50
15: Coffee-----	45	Very limited Low strength Slope Shrink-swell Frost action	1.00 0.63 0.50 0.50	Somewhat limited Slope Depth to hard bedrock Cutbanks cave	0.63 0.61 0.10	Very limited Sodium content Slope Salinity	1.00 0.63 0.50
Nargon-----	30	Somewhat limited Depth to hard bedrock Slope Frost action	0.97 0.63 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.63 0.10	Somewhat limited Depth to bedrock Slope Large stones content	0.97 0.63 0.01

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16: Coffee-----	30	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Depth to hard bedrock Cutbanks cave	0.61 0.10	Very limited Sodium content Salinity	1.00 0.50
Nargon-----	30	Somewhat limited Depth to hard bedrock Frost action	0.97 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock Large stones content	0.97 0.01
Atom-----	15	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Very limited Sodium content	1.00
17: Cronks-----	40	Very limited Slope Low strength Shrink-swell Large stones content	1.00 0.78 0.50 0.16	Very limited Slope Large stones content Cutbanks cave	1.00 0.16 0.10	Very limited Slope Large stones content Droughty	1.00 0.46 0.01
Dacont-----	35	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Gravel content	1.00 0.01
18: Crooked Creek-----	85	Very limited Low strength Shrink-swell Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave Too clayey	0.35 0.10 0.02	Not limited	
19: Cryoborolls-----	50	Very limited Slope Large stones content Frost action	1.00 0.89 0.50	Very limited Slope Cutbanks cave Large stones content	1.00 1.00 0.89	Very limited Slope Large stones content Droughty	1.00 1.00 0.59
Rubble land-----	20	Not rated		Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated		Not rated	
20: Darlington-----	60	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Very limited Gravel content Droughty	1.00 0.03
Lesbut-----	35	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty Gravel content	0.46 0.05
21: Denied access-----	100	Not rated		Not rated		Not rated	

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22: Deuce-----	45	Very limited Depth to hard bedrock Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty Large stones content	1.00 0.61 0.54
Nargon-----	20	Somewhat limited Depth to hard bedrock Frost action	0.97 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock Large stones content	0.97 0.01
Lava flows-----	15	Not rated		Not rated		Not rated	
23: Deuce-----	35	Very limited Depth to hard bedrock Slope Low strength Shrink-swell Frost action	1.00 1.00 1.00 0.50 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty Large stones content	1.00 1.00 0.60 0.54
Nargon-----	20	Very limited Slope Depth to hard bedrock Frost action	1.00 0.99 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Slope Depth to bedrock Droughty Large stones content	1.00 0.99 0.02 0.01
Lava flows-----	20	Not rated		Not rated		Not rated	
24: Dickeypeak-----	50	Very limited Frost action Low strength	1.00 0.22	Very limited Cutbanks cave Depth to saturated zone	1.00 0.99	Very limited Salinity Sodium content	1.00 1.00
Bigrant-----	40	Very limited Depth to saturated zone Frost action Flooding Low strength	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Too clayey Cutbanks cave	1.00 0.60 0.12 0.10	Very limited Depth to saturated zone Flooding Salinity	1.00 0.60 0.50
25: Donkehill-----	85	Very limited Depth to hard bedrock Slope Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Slope Droughty Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 0.78 0.05
26: Dredge-----	80	Somewhat limited Shrink-swell Frost action Low strength	0.50 0.50 0.22	Somewhat limited Cutbanks cave	0.10	Not limited	

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27: Elbow-----	80	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to thin cemented pan	1.00 0.95	Somewhat limited Depth to bedrock Depth to cemented pan Droughty Gravel content	0.95 0.95 0.86 0.46
28: Fallert-----	80	Not limited		Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Gravel content Large stones content	1.00 0.99 0.54 0.01
29: Fallert, dry-----	80	Not limited		Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Gravel content Large stones content	1.00 0.97 0.54 0.01
30: Fandow-----	80	Somewhat limited Depth to thin cemented pan	1.00	Very limited Depth to thin cemented pan Cutbanks cave	1.00 1.00	Very limited Depth to bedrock Depth to cemented pan Carbonate content Droughty Gravel content	1.00 1.00 1.00 0.99 0.94
31: Fulwider, high precipitation-----	40	Somewhat limited Depth to thin cemented pan Slope Frost action	1.00 0.96 0.50	Very limited Depth to thin cemented pan Cutbanks cave Slope	1.00 1.00 0.96	Very limited Depth to cemented pan Droughty Depth to bedrock Slope Large stones content	1.00 1.00 1.00 1.00 0.96 0.01
Fulwider, low precipitation-----	30	Somewhat limited Depth to thin cemented pan Slope Frost action	1.00 0.96 0.50	Very limited Depth to thin cemented pan Cutbanks cave Slope	1.00 1.00 0.96	Very limited Depth to cemented pan Droughty Depth to bedrock Slope Large stones content	1.00 1.00 1.00 1.00 0.96 0.01

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31: Fulwider-----	15	Somewhat limited Depth to thin cemented pan Slope Frost action	1.00 0.96 0.50	Very limited Depth to thin cemented pan Cutbanks cave Slope Dense layer	1.00 1.00 0.96 0.50	Very limited Depth to cemented pan Droughty Depth to bedrock Slope Large stones content	1.00 1.00 1.00 0.96 0.01
32: Goosebury, high precipitation-----	90	Somewhat limited Slope	0.84	Very limited Cutbanks cave Slope	1.00 0.84	Very limited Gravel content Slope Droughty Large stones content	1.00 0.84 0.65 0.01
33: Goosebury-----	80	Not limited		Very limited Cutbanks cave	1.00	Very limited Gravel content Droughty Large stones content	1.00 0.65 0.01
34: Goosebury, low precipitation-----	45	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Gravel content Droughty Large stones content	1.00 0.61 0.56 0.01
Goosebury, high precipitation-----	35	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Gravel content Droughty Large stones content	1.00 0.61 0.12 0.01
35: Hagenbarth-----	30	Very limited Low strength Slope Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Howcan-----	25	Very limited Slope Large stones content Frost action	1.00 1.00 0.50	Very limited Slope Large stones content Depth to hard bedrock Cutbanks cave	1.00 1.00 0.13 0.10	Very limited Slope Droughty Large stones content	1.00 0.20 0.03



## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35: Jonda-----	20	Very limited Large stones content Slope Frost action	1.00  1.00 0.50	Very limited Large stones content Slope Cutbanks cave	1.00  1.00 0.10	Very limited Slope Gravel content Droughty Large stones content	1.00 0.99 0.87 0.05
36: Hal-----	60	Very limited Slope Frost action	1.00 1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Gravel content	1.00 0.32
Moonville-----	25	Very limited Slope Low strength Frost action	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
37: Hondoho-----	85	Very limited Slope Frost action Large stones content	1.00 0.50 0.01	Very limited Cutbanks cave Slope Large stones content	1.00 1.00 0.01	Very limited Slope Large stones content	1.00 0.46
38: Howcan-----	50	Very limited Slope Large stones content Frost action	1.00 1.00 0.50	Very limited Slope Large stones content Depth to hard bedrock Cutbanks cave	1.00 1.00 0.13 0.10	Very limited Slope Droughty Large stones content	1.00 0.20 0.03
Hutchley-----	35	Very limited Depth to hard bedrock Slope Shrink-swell Frost action Large stones content	1.00 1.00 0.50 0.50 0.06	Very limited Depth to hard bedrock Slope Cutbanks cave Large stones content	1.00 1.00 0.10 0.06	Very limited Slope Droughty Depth to bedrock Large stones content Gravel content	1.00 1.00 1.00 0.92 0.06
Rock outcrop-----	10	Not rated		Not rated		Not rated	
39: Howcan-----	35	Very limited Slope Large stones content Frost action	1.00 1.00 0.50	Very limited Slope Large stones content Depth to hard bedrock Cutbanks cave	1.00 1.00 0.13 0.10	Very limited Slope Droughty Large stones content	1.00 0.20 0.03
Zeebar-----	25	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope	1.00

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39: Hutchley-----	20	Very limited Depth to hard bedrock Slope Shrink-swell Frost action Large stones content	1.00  1.00 0.50 0.50 0.06	Very limited Depth to hard bedrock Slope Cutbanks cave Large stones content	1.00  1.00 0.10 0.06	Very limited Slope Droughty Depth to bedrock Large stones content Gravel content	1.00 1.00 1.00 0.92 0.06
40: Huddle-----	65	Somewhat limited Frost action	0.50	Somewhat limited Depth to hard bedrock Cutbanks cave	0.42 0.10	Somewhat limited Gravel content	0.79
Moonville-----	20	Very limited Low strength Frost action	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
41: Ike-----	40	Very limited Depth to hard bedrock Slope Large stones content	1.00  1.00 0.70	Very limited Depth to hard bedrock Slope Large stones content Cutbanks cave	1.00 1.00 0.70 0.10	Very limited Droughty Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.49
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Jimbee-----	15	Very limited Depth to hard bedrock Slope Frost action	1.00  1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 1.00 0.10	Very limited Droughty Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.13
42: Ike-----	45	Very limited Depth to hard bedrock Slope Large stones content	1.00  1.00 0.70	Very limited Depth to hard bedrock Slope Large stones content Cutbanks cave	1.00 1.00 1.00 0.70 0.10	Very limited Slope Droughty Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.49
Simeroi-----	30	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.30 0.08
Rock outcrop-----	10	Not rated		Not rated		Not rated	

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43: Inel-----	35	Very limited Depth to hard bedrock Slope Frost action Large stones content	1.00  1.00 0.50 0.15	Very limited Depth to hard bedrock Slope Large stones content Cutbanks cave	1.00  1.00 0.15 0.10	Very limited Slope Depth to bedrock Droughty Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.21
Matheson-----	30	Very limited Slope Frost action	1.00 0.50	Very limited Cutbanks cave Slope Depth to hard bedrock	1.00 1.00 0.84	Very limited Slope	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
44: Inel-----	55	Very limited Depth to hard bedrock Slope Frost action Large stones content	1.00  1.00 0.50 0.01	Very limited Depth to hard bedrock Slope Cutbanks cave Large stones content	1.00  1.00 0.10 0.01	Very limited Depth to bedrock Slope Carbonate content Droughty Large stones content	1.00 1.00 1.00 0.90 0.26
Slide-----	15	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.55 0.08
Rock outcrop-----	15	Not rated		Not rated		Not rated	
45: Jimbee-----	40	Very limited Depth to hard bedrock Slope Frost action	1.00  1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00  1.00 0.10	Very limited Droughty Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.13
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Ike-----	15	Very limited Depth to hard bedrock Slope Large stones content	1.00  1.00 0.70	Very limited Depth to hard bedrock Slope Large stones content Cutbanks cave	1.00  1.00 0.70 0.10	Very limited Droughty Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.49
46: Jimbee-----	40	Very limited Depth to hard bedrock Slope Frost action Large stones content	1.00  1.00 0.50 0.01	Very limited Depth to hard bedrock Slope Cutbanks cave Large stones content	1.00  1.00 0.10 0.01	Very limited Slope Droughty Depth to bedrock Carbonate content Large stones content	1.00 1.00 1.00 1.00 0.54

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
46: Skibo-----	30	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Carbonate content Large stones content Gravel content Droughty	1.00 1.00 0.16 0.11 0.01
Ike-----	15	Very limited Depth to hard bedrock Slope Large stones content	1.00 1.00 0.70	Very limited Depth to hard bedrock Slope Large stones content Cutbanks cave	1.00 1.00 0.70 0.10	Very limited Slope Droughty Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.49
47: Justesen-----	45	Very limited Low strength Shrink-swell Frost action Slope	1.00 0.50 0.50 0.37	Somewhat limited Slope Cutbanks cave	0.37 0.10	Somewhat limited Slope	0.37
Drage-----	40	Somewhat limited Slope Shrink-swell Frost action Large stones content	0.84 0.50 0.50 0.07	Somewhat limited Slope Cutbanks cave Large stones content	0.84 0.10 0.07	Somewhat limited Slope Large stones content	0.84 0.03
48: Ketchum-----	50	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope	1.00
Povey-----	30	Very limited Slope Large stones content Frost action	1.00 1.00 0.50	Very limited Slope Large stones content Cutbanks cave Depth to hard bedrock	1.00 1.00 0.10 0.08	Very limited Slope Droughty Gravel content Large stones content	1.00 0.97 0.01 0.01
49: Kimama-----	90	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
50: Klug-----	90	Somewhat limited Frost action Slope	0.50 0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Gravel content Slope Droughty Large stones content	0.90 0.16 0.07 0.05

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
51: Klug-----	60	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Gravel content Droughty Large stones content	1.00 0.90 0.07 0.05
Parvis-----	20	Very limited Slope Large stones content Frost action	1.00 0.79 0.50	Very limited Slope Large stones content Cutbanks cave	1.00 0.79 0.10	Very limited Slope Gravel content	1.00 0.95
52: Lag-----	90	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty	1.00 0.19
53: Lavacreek-----	65	Very limited Slope Large stones content Frost action	1.00 0.80 0.50	Very limited Slope Large stones content Cutbanks cave	1.00 0.80 0.10	Very limited Slope Large stones content Gravel content	1.00 1.00 0.21
Dollarhide-----	25	Very limited Depth to hard bedrock Slope Frost action	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Slope Droughty Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 1.00 0.20
54: Lavacreek-----	45	Very limited Slope Large stones content Frost action	1.00 0.80 0.50	Very limited Slope Large stones content Cutbanks cave	1.00 0.80 0.10	Very limited Slope Large stones content Gravel content	1.00 1.00 0.21
Dollarhide-----	20	Very limited Depth to hard bedrock Slope Frost action	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Slope Droughty Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 1.00 0.20
Grassycone-----	20	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope	1.00
55: Lavacreek-----	45	Very limited Slope Large stones content Frost action	1.00 0.80 0.50	Very limited Slope Large stones content Cutbanks cave	1.00 0.80 0.10	Very limited Slope Large stones content Gravel content	1.00 1.00 0.21

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
55: Vitale-----	35	Very limited Slope Large stones content Shrink-swell Frost action Depth to hard bedrock	1.00 1.00 0.50 0.50 0.20	Very limited Depth to hard bedrock Slope Large stones content Cutbanks cave	1.00 1.00 1.00 1.00 0.10	Very limited Slope Large stones content Droughty Gravel content Depth to bedrock	1.00 1.00 0.98 0.21 0.20
56: Lava flows-----	100	Not rated		Not rated		Not rated	
57: Lava flows-----	70	Not rated		Not rated		Not rated	
Cinderhurst-----	20	Very limited Depth to hard bedrock Large stones content Low strength Frost action Slope	1.00 1.00 1.00 0.50 0.04	Very limited Depth to hard bedrock Large stones content Slope	1.00 1.00 0.04	Very limited Depth to bedrock Large stones content Droughty Slope	1.00 1.00 1.00 0.04
58: Lava flows-----	60	Not rated		Not rated		Not rated	
Pingree-----	35	Very limited Depth to hard bedrock Frost action	1.00 0.50	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock Droughty Large stones content Gravel content	1.00 1.00 0.03 0.01
59: Leatherman-----	45	Very limited Depth to thin cemented pan Slope Frost action	1.00 1.00 0.50	Very limited Depth to thin cemented pan Slope Cutbanks cave	1.00 1.00 1.00	Very limited Depth to cemented pan Slope Droughty Depth to bedrock Carbonate content	1.00 1.00 1.00 1.00 1.00
Adek, dry-----	20	Somewhat limited Slope Frost action	0.84 0.50	Very limited Cutbanks cave Slope	1.00 0.84	Very limited Carbonate content Slope Droughty Gravel content Large stones content	1.00 0.84 0.31 0.20 0.01
Adek-----	15	Very limited Slope Large stones content Frost action	1.00 0.50 0.50	Very limited Slope Large stones content Cutbanks cave	1.00 0.50 0.10	Very limited Slope Carbonate content Droughty Gravel content Large stones content	1.00 1.00 0.32 0.20 0.01

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
60: Leatherman-----	45	Somewhat limited Depth to thin cemented pan Frost action	1.00 0.50	Very limited Depth to thin cemented pan Cutbanks cave	1.00 1.00	Very limited Depth to cemented pan Droughty Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.10
Bluedome-----	30	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to thin cemented pan	1.00 0.97	Very limited Carbonate content Depth to bedrock Depth to cemented pan Droughty	1.00 0.97 0.97 0.18
61: Malm-----	60	Somewhat limited Depth to hard bedrock	0.01	Very limited Depth to hard bedrock Cutbanks cave	1.00 1.00	Somewhat limited Depth to bedrock	0.01
Bondfarm-----	20	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Very limited Droughty Depth to bedrock Large stones content	1.00 1.00 0.61
Matheson-----	15	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to hard bedrock	1.00 0.84	Not limited	
62: Matheson-----	70	Somewhat limited Frost action Slope	0.50 0.04	Very limited Cutbanks cave Depth to hard bedrock Slope	1.00 0.84 0.04	Somewhat limited Slope	0.04
Grassy Butte-----	20	Somewhat limited Slope	0.96	Very limited Cutbanks cave Slope	1.00 0.96	Somewhat limited Slope Droughty	0.96 0.69
63: McCain-----	65	Very limited Low strength Depth to hard bedrock Shrink-swell	1.00 0.64 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock	0.65
Thornock-----	20	Very limited Depth to hard bedrock Frost action	1.00 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty Large stones content	1.00 0.86 0.46

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64: McCarey-----	45	Somewhat limited Low strength Frost action Depth to hard bedrock	0.78 0.50 0.20	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock	0.20
Beartrap-----	35	Not limited		Somewhat limited Depth to hard bedrock Cutbanks cave	0.26 0.10	Not limited	
65: McCarey-----	60	Somewhat limited Slope Low strength Frost action Depth to hard bedrock	0.84 0.78 0.50 0.20	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.84 0.10	Somewhat limited Slope Depth to bedrock	0.84 0.20
Beartrap-----	25	Somewhat limited Slope	0.84	Somewhat limited Slope Depth to hard bedrock Cutbanks cave	0.84 0.26 0.10	Somewhat limited Slope	0.84
66: McCarey-----	40	Somewhat limited Low strength Frost action Depth to hard bedrock Slope	0.78 0.50 0.20 0.04	Very limited Depth to hard bedrock Cutbanks cave Slope	1.00 0.10 0.04	Somewhat limited Depth to bedrock Slope	0.20 0.04
Beartrap-----	30	Somewhat limited Slope	0.04	Somewhat limited Depth to hard bedrock Cutbanks cave Slope	0.26 0.10 0.04	Somewhat limited Slope	0.04
Rock outcrop-----	25	Not rated		Not rated		Not rated	
67: McCarey-----	40	Very limited Low strength Depth to hard bedrock Shrink-swell Frost action Slope	1.00 0.64 0.50 0.50 0.04	Very limited Depth to hard bedrock Cutbanks cave Slope	1.00 0.10 0.04	Somewhat limited Depth to bedrock Slope	0.65 0.04
Molyneux-----	25	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Lava flows-----	20	Not rated		Not rated		Not rated	



## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68: McCarey-----	55	Somewhat limited Low strength Frost action Depth to hard bedrock	0.78 0.50 0.20	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock	0.20
Splittop-----	20	Very limited Low strength Depth to hard bedrock	1.00 0.46	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock	0.46
Lava flows-----	15	Not rated		Not rated		Not rated	
69: McCarey-----	45	Somewhat limited Low strength Frost action Depth to hard bedrock Slope	0.78 0.50 0.20 0.04	Very limited Depth to hard bedrock Cutbanks cave Slope	1.00 0.10 0.04	Somewhat limited Depth to bedrock Slope	0.20 0.04
Vickton-----	20	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave Depth to hard bedrock	0.10 0.01	Not limited	
Lava flows-----	15	Not rated		Not rated		Not rated	
70: McClenden-----	55	Not limited		Somewhat limited Depth to hard bedrock Cutbanks cave	0.18 0.10	Not limited	
Thornock-----	20	Very limited Depth to hard bedrock Frost action	1.00 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty Large stones content	1.00 0.86 0.46
71: Medicine-----	60	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Whiteknob-----	25	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.31
72: Menan-----	85	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73: Mogg-----	45	Very limited Depth to hard bedrock Slope Frost action Large stones content	1.00  1.00 0.50 0.19	Very limited Depth to hard bedrock Slope Large stones content Cutbanks cave	1.00  1.00 0.19 0.10	Very limited Slope Droughty Depth to bedrock Gravel content Large stones content	1.00 1.00 1.00 0.58 0.54
Shagel-----	30	Very limited Depth to hard bedrock Slope Frost action Large stones content	1.00  1.00 0.50 0.09	Very limited Depth to hard bedrock Slope Cutbanks cave Large stones content	1.00  1.00 0.10 0.09	Very limited Slope Depth to bedrock Droughty Large stones content Gravel content	1.00 1.00 1.00 0.99 0.22
74: Mooretown-----	50	Very limited Flooding Frost action Depth to saturated zone	1.00 0.50 0.03	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00  1.00 0.60	Somewhat limited Flooding Depth to saturated zone	0.60 0.03
Borah-----	40	Very limited Flooding Depth to saturated zone	1.00 0.75	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00  1.00 0.60	Very limited Droughty Depth to saturated zone Flooding	1.00 0.75 0.60
75: Mooretown, drained--	50	Very limited Flooding Frost action	1.00 0.50	Very limited Cutbanks cave Flooding	1.00 0.60	Somewhat limited Flooding	0.60
Borco-----	30	Not limited		Very limited Cutbanks cave	1.00	Very limited Droughty Gravel content	1.00 0.95
76: Nargon-----	35	Somewhat limited Depth to hard bedrock Frost action Slope	0.97  0.50 0.37	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00  0.37 0.10	Somewhat limited Depth to bedrock Slope Large stones content	0.97 0.37 0.01
Atom-----	30	Somewhat limited Shrink-swell Frost action Slope Low strength	0.50 0.50 0.37 0.22	Somewhat limited Slope Cutbanks cave	0.37 0.10	Very limited Sodium content Slope	1.00 0.37
Techicknot-----	25	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77: Nargon-----	50	Somewhat limited Depth to hard bedrock Frost action Slope	0.99 0.50 0.37	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.37 0.10	Somewhat limited Depth to bedrock Slope Droughty Large stones content	0.99 0.37 0.02 0.01
Deuce-----	20	Very limited Depth to hard bedrock Low strength Shrink-swell Frost action Slope	1.00 1.00 0.50 0.50 0.37	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.37 0.10	Very limited Depth to bedrock Droughty Large stones content Slope	1.00 0.61 0.54 0.37
Lava flows-----	10	Not rated		Not rated		Not rated	
78: Nitchly-----	75	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Carbonate content Large stones content Gravel content	1.00 1.00 0.46 0.08
79: Nurkey-----	50	Very limited Slope Frost action	1.00 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Large stones content Gravel content	1.00 0.26 0.06
Dacont-----	30	Very limited Slope Frost action	1.00 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Gravel content	1.00 0.01
80: Nurkey-----	50	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Large stones content Gravel content	1.00 0.26 0.06
Dacont-----	35	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Gravel content	1.00 0.01
81: Nurkey-----	80	Very limited Slope Frost action	1.00 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Gravel content Large stones content	1.00 0.10 0.08

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
81: Nurkey, low precipitation-----	20	Very limited Slope Frost action	1.00 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Gravel content Large stones content	1.00 0.13 0.03
82: Calcids-----	50	Very limited Slope Frost action Large stones content	1.00 0.50 0.01	Very limited Slope Cutbanks cave Large stones content	1.00 1.00 0.01	Very limited Slope Large stones content Droughty Gravel content	1.00 0.84 0.69 0.14
Rubble land-----	20	Not rated		Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated		Not rated	
83: Packmo-----	50	Somewhat limited Frost action Slope	0.50 0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Droughty Gravel content Slope Large stones content	0.54 0.45 0.16 0.08
Snowslide-----	40	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Droughty Gravel content Slope Large stones content	0.88 0.47 0.16 0.01
84: Paint-----	45	Somewhat limited Depth to thin cemented pan Frost action Slope	1.00 0.50 0.01	Very limited Depth to thin cemented pan Cutbanks cave Slope	1.00 1.00 0.01	Very limited Depth to cemented pan Depth to bedrock Droughty Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.39
Fallert-----	40	Somewhat limited Slope	0.01	Very limited Cutbanks cave Slope	1.00 0.01	Very limited Carbonate content Droughty Gravel content Large stones content Slope	1.00 0.92 0.54 0.01 0.01
85: Paint-----	65	Somewhat limited Depth to thin cemented pan Frost action	1.00 0.50	Very limited Depth to thin cemented pan Cutbanks cave	1.00 1.00	Very limited Depth to cemented pan Droughty Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.08

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
85: Whitecloud-----	20	Not limited		Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Gravel content	1.00 0.76 0.12
86: Pancheri-----	80	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
87: Pancheri-----	45	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Polatis-----	30	Somewhat limited Frost action Depth to hard bedrock	0.50 0.01	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock	0.01
88: Playas-----	100	Not rated		Not rated		Not rated	
89: Polatis-----	90	Somewhat limited Frost action Depth to hard bedrock	0.50 0.15	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock	0.16
90: Portino-----	55	Somewhat limited Depth to hard bedrock Frost action	0.54 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock	0.54
Thornock-----	30	Very limited Depth to hard bedrock Frost action	1.00 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty Large stones content	1.00 0.86 0.46
91: Riverlost-----	45	Very limited Low strength Slope Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Large stones content	1.00 0.95
Frymire-----	40	Very limited Slope Shrink-swell Low strength Large stones content Frost action	1.00 1.00 1.00 1.00 0.50	Very limited Slope Large stones content Too clayey Cutbanks cave	1.00 1.00 0.12 0.10	Very limited Slope Large stones content Droughty	1.00 1.00 0.07

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
92: Riverlost-----	60	Very limited Low strength Slope Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Large stones content	1.00 0.95
Grouseville-----	20	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
93: Riverlost-----	55	Very limited Low strength Slope Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Large stones content	1.00 0.95
Soen-----	30	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
94: Rubble land-----	40	Not rated		Not rated		Not rated	
Milligan-----	35	Very limited Slope Large stones content Frost action Depth to hard bedrock	1.00 1.00 0.50 0.01	Very limited Depth to hard bedrock Slope Cutbanks cave Large stones content	1.00 1.00 1.00 1.00	Very limited Slope Large stones content Droughty Depth to bedrock	1.00 1.00 0.55 0.01
95: Sanfelipe-----	85	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Gravel content	1.00 0.04 0.01
96: Sanfelipe-----	90	Somewhat limited Frost action Slope	0.50 0.16	Very limited Cutbanks cave Slope	1.00 0.16	Very limited Carbonate content Slope Droughty Gravel content	1.00 0.16 0.04 0.01
97: Sanfelipe-----	65	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Very limited Carbonate content	1.00
McCaleb-----	25	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Very limited Carbonate content	1.00

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
98: Sanfelipe-----	70	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Gravel content	1.00 0.04 0.01
Simeroi-----	20	Not limited		Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Gravel content	1.00 0.30 0.08
99: Simeroi-----	85	Not limited		Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Gravel content	1.00 0.30 0.08
100: Simeroi-----	75	Somewhat limited Slope	0.04	Very limited Cutbanks cave Slope	1.00 0.04	Very limited Carbonate content Droughty Gravel content Slope	1.00 0.30 0.08 0.04
101: Simeroi-----	85	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Very limited Carbonate content Droughty Slope Gravel content	1.00 0.30 0.16 0.08
102: Simeroi, cool-----	85	Somewhat limited Slope	0.96	Very limited Cutbanks cave Slope	1.00 0.96	Very limited Carbonate content Slope Droughty Gravel content	1.00 0.96 0.30 0.08
103: Simeroi, dry-----	80	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.30 0.08
104: Simeroi-----	60	Not limited		Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Gravel content	1.00 0.30 0.08
Paint-----	25	Somewhat limited Depth to thin cemented pan Frost action	1.00 0.50	Very limited Depth to thin cemented pan Cutbanks cave	1.00 1.00	Very limited Depth to cemented pan Depth to bedrock Carbonate content Droughty Gravel content	1.00 1.00 1.00 0.99 0.39

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
105: Simeroi, dry-----	50	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.30 0.08
Simeroi-----	30	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.30 0.08
106: Simeroi-----	60	Somewhat limited Slope	0.01	Very limited Cutbanks cave Slope	1.00 0.01	Very limited Carbonate content Droughty Gravel content Slope	1.00 0.30 0.08 0.01
Sparmo-----	25	Somewhat limited Slope	0.01	Very limited Cutbanks cave Slope	1.00 0.01	Somewhat limited Slope	0.01
107: Simeroi-----	40	Not limited		Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Gravel content	1.00 0.30 0.08
Slide-----	35	Not limited		Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Gravel content	1.00 0.29 0.08
McCaleb-----	15	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Very limited Carbonate content	1.00
108: Simeroi-----	40	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.30 0.08
Bealand-----	40	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Carbonate content Gravel content	1.00 1.00 0.26
109: Slide-----	80	Not limited		Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Gravel content	1.00 0.29 0.08



## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
110: Snowslide-----	80	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty Gravel content Large stones content	0.90 0.47 0.01
111: Snowslide-----	85	Somewhat limited Slope	0.84	Very limited Cutbanks cave Slope	1.00 0.84	Somewhat limited Slope Droughty Gravel content Large stones content	0.84 0.80 0.47 0.01
112: Snowslide-----	80	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty Gravel content Large stones content	0.94 0.47 0.01
Zer-----	15	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.07
113: Snowslide-----	35	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Droughty Slope Gravel content Large stones content	1.00 1.00 0.47 0.01
Zer-----	30	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.07
Snowslide, low precipitation-----	20	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty Gravel content Large stones content	1.00 0.99 0.47 0.01
114: Soen-----	80	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
115: Soen-----	70	Very limited Low strength Shrink-swell Frost action Slope	1.00 0.50 0.50 0.01	Somewhat limited Cutbanks cave Slope	0.10 0.01	Somewhat limited Slope	0.01

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
115: Justesen-----	25	Very limited Low strength Shrink-swell Frost action Slope	1.00 0.50 0.50 0.01	Somewhat limited Cutbanks cave Slope	0.10 0.01	Somewhat limited Slope	0.01
116: Sparmo-----	75	Not limited		Very limited Cutbanks cave	1.00	Not limited	
117: Sparmo-----	50	Not limited		Very limited Cutbanks cave	1.00	Not limited	
Bluedome-----	35	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to thin cemented pan	1.00 0.95	Very limited Carbonate content Depth to bedrock Depth to cemented pan Droughty	1.00 0.95 0.95 0.07
118: Sparmo-----	45	Not limited		Very limited Cutbanks cave	1.00	Not limited	
Zer-----	45	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.54
119: Splittop-----	50	Very limited Low strength Depth to hard bedrock	1.00 0.29	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock Droughty	0.29 0.09
Atomic-----	30	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Depth to hard bedrock Cutbanks cave	0.77 0.10	Not limited	
120: Splittop-----	50	Very limited Low strength Depth to hard bedrock	1.00 0.29	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock Droughty	0.29 0.09
Coffee-----	30	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Depth to hard bedrock Cutbanks cave	0.61 0.10	Very limited Sodium content Salinity	1.00 0.50
121: Stan-----	95	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
122: Stan-----	55	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
122: Breitenbach-----	30	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
123: Stan, loamy fine sand surface-----	70	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Stan-----	25	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
124: Starlite-----	80	Very limited Frost action	1.00	Somewhat limited Cutbanks cave	0.10	Very limited Carbonate content	1.00
125: Techick-----	50	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Soelberg-----	45	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Very limited Cutbanks cave	1.00	Not limited	
126: Techick-----	40	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Soelberg-----	35	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Very limited Cutbanks cave	1.00	Not limited	
Lesbut-----	15	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty Gravel content	0.46 0.05
127: Techicknot-----	45	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Atom-----	25	Somewhat limited Shrink-swell Frost action Low strength	0.50 0.50 0.22	Somewhat limited Cutbanks cave	0.10	Very limited Sodium content	1.00
Nargon-----	20	Somewhat limited Depth to hard bedrock Frost action	0.97 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock Large stones content	0.97 0.01
128: Tenno-----	50	Very limited Depth to hard bedrock Frost action	1.00 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty Large stones content	1.00 0.35 0.01

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
128: Splittop-----	25	Very limited Low strength Depth to hard bedrock	1.00 0.15	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock	0.16
Lava flows-----	15	Not rated		Not rated		Not rated	
129: Tenno-----	45	Very limited Depth to hard bedrock Frost action	1.00 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty Large stones content	1.00 0.35 0.01
Splittop-----	25	Very limited Low strength Depth to hard bedrock	1.00 0.46	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock	0.46
McCarey-----	20	Very limited Low strength Depth to hard bedrock Shrink-swell Frost action	1.00 0.99 0.50 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock Droughty	0.99 0.01
130: Thornock-----	45	Very limited Depth to hard bedrock Frost action	1.00 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty Large stones content	1.00 0.86 0.46
Portino-----	35	Somewhat limited Depth to hard bedrock Frost action	0.54 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock	0.54
131: Thornock-----	50	Very limited Depth to hard bedrock Frost action Slope	1.00 0.50 0.16	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.16 0.10	Very limited Depth to bedrock Droughty Large stones content Slope	1.00 0.86 0.46 0.16
Portino-----	25	Somewhat limited Depth to hard bedrock Frost action Slope	0.54 0.50 0.16	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.16 0.10	Somewhat limited Depth to bedrock Slope	0.54 0.16

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
132: Thosand-----	50	Very limited Depth to saturated zone Frost action Flooding Ponding Low strength	1.00  1.00 1.00 1.00 0.78	Very limited Depth to saturated zone Cutbanks cave Ponding Flooding	1.00  1.00 1.00 0.60	Very limited Depth to saturated zone Carbonate content Ponding Flooding Salinity	1.00  1.00 1.00 0.60 0.50
San crane-----	25	Very limited Depth to saturated zone Frost action Ponding Shrink-swell Low strength	1.00  1.00 1.00 0.50 0.22	Very limited Depth to saturated zone Cutbanks cave Ponding	1.00  1.00 1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
133: Truesdale-----	45	Not limited		Somewhat limited Depth to thin cemented pan Cutbanks cave Depth to hard bedrock	0.99  0.10 0.02	Somewhat limited Depth to bedrock Depth to cemented pan Droughty	0.99 0.99  0.28
Minidoka-----	40	Not limited		Very limited Cutbanks cave Depth to thin cemented pan	1.00 0.54	Somewhat limited Depth to bedrock Depth to cemented pan	0.54 0.54
134: Vitale-----	45	Very limited Large stones content Slope Shrink-swell Frost action Depth to hard bedrock	1.00  1.00 0.50 0.50 0.20	Very limited Depth to hard bedrock Large stones content Slope Cutbanks cave	1.00  1.00 1.00 0.10	Very limited Large stones content Slope Droughty Gravel content Depth to bedrock	1.00  1.00 0.98 0.21 0.20
Blackspar-----	35	Very limited Depth to hard bedrock Slope Large stones content	1.00  1.00 0.99	Very limited Depth to hard bedrock Slope Large stones content Cutbanks cave	1.00  1.00 0.99 0.10	Very limited Droughty Depth to bedrock Large stones content Slope Gravel content	1.00 1.00 1.00  1.00 0.01
135: Whitecloud-----	75	Not limited		Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Gravel content	1.00 0.54 0.12
136: Whitecloud-----	55	Not limited		Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Gravel content	1.00 0.43 0.12

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
136: Sanfelipe-----	25	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Very limited Carbonate content Droughty Large stones content Gravel content	1.00 0.06 0.01 0.01
137: Zeale-----	70	Somewhat limited Frost action Slope	0.50 0.37	Very limited Cutbanks cave Slope	1.00 0.37	Very limited Carbonate content Droughty Slope Gravel content	1.00 0.42 0.37 0.19
Zeale, high precipitation-----	25	Somewhat limited Frost action Slope	0.50 0.37	Very limited Cutbanks cave Slope	1.00 0.37	Very limited Carbonate content Slope Droughty Gravel content	1.00 0.37 0.19 0.19
138: Zeale-----	70	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.42 0.19
Zeale, high precipitation-----	25	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Carbonate content Droughty Gravel content	1.00 1.00 0.19 0.19
139: Zeale-----	35	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Carbonate content Gravel content Droughty	1.00 1.00 0.19 0.16
Coalkiln-----	25	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Carbonate content	1.00 1.00
Jimbee-----	25	Very limited Depth to hard bedrock Slope Frost action	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Slope Droughty Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.51
140: Zeebar, cool-----	55	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope	1.00

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
140: Zeebar-----	30	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope	1.00
141: Zeebar-----	40	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty	1.00 0.22
Parvis-----	25	Very limited Slope Large stones content Frost action	1.00 0.79 0.50	Very limited Slope Large stones content Cutbanks cave	1.00 0.79 0.10	Very limited Slope Gravel content	1.00 0.95
Howcan-----	20	Very limited Slope Large stones content Frost action	1.00 1.00 0.50	Very limited Slope Large stones content Depth to hard bedrock Cutbanks cave	1.00 1.00 0.13 0.10	Very limited Slope Droughty Large stones content	1.00 0.20 0.03
142: Zer-----	85	Not limited		Very limited Cutbanks cave	1.00	Not limited	
143: Zer-----	85	Somewhat limited Slope	0.01	Very limited Cutbanks cave Slope	1.00 0.01	Somewhat limited Droughty Gravel content Slope	0.66 0.03 0.01
144: Zer-----	95	Somewhat limited Slope Frost action	0.63 0.50	Very limited Cutbanks cave Slope	1.00 0.63	Somewhat limited Gravel content Slope Large stones content Droughty	0.72 0.63 0.46 0.38
145: Zer-----	80	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty Gravel content	1.00 0.79 0.01
146: Zer-----	45	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Slope Droughty	0.16 0.15
Snowslide-----	40	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Gravel content Slope Large stones content Droughty	0.47 0.16 0.01 0.01

## Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
147: Zer-----	65	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.15
Whiteknob-----	25	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Gravel content Droughty	0.84 0.80
148: Mooretown-----	45	Very limited Flooding Frost action Depth to saturated zone	1.00 0.50 0.03	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 1.00 0.60	Somewhat limited Flooding Depth to saturated zone	0.60 0.03
Blackfoot-----	25	Very limited Frost action Low strength Depth to saturated zone	1.00 0.78 0.03	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Somewhat limited Depth to saturated zone	0.03
Borah-----	20	Very limited Flooding Depth to saturated zone	1.00 0.75	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 1.00 0.60	Somewhat limited Droughty Depth to saturated zone Flooding	0.99 0.75 0.60
149: Drage, cool-----	85	Somewhat limited Shrink-swell Frost action Large stones content Slope	0.50 0.50 0.07 0.04	Very limited Cutbanks cave Large stones content Slope	1.00 0.07 0.04	Somewhat limited Droughty Large stones content Slope	0.07 0.05 0.04
150: Vitale-----	45	Very limited Slope Large stones content Depth to hard bedrock Frost action	1.00 1.00 0.95 0.50	Very limited Depth to hard bedrock Slope Large stones content Cutbanks cave	1.00 1.00 1.00 1.00 0.10	Very limited Slope Large stones content Droughty Depth to bedrock Gravel content	1.00 1.00 1.00 0.95 0.21
Blackspar-----	35	Very limited Depth to hard bedrock Slope Large stones content	1.00 1.00 0.89	Very limited Depth to hard bedrock Slope Large stones content Cutbanks cave	1.00 1.00 1.00 0.89 0.10	Very limited Slope Droughty Depth to bedrock Large stones content Gravel content	1.00 1.00 1.00 1.00 0.01



## Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1: Arco-----	85	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.28	Somewhat limited Depth to saturated zone	0.22
2: Atom-----	80	Very limited Slow water movement	1.00	Not limited		Not limited	
3: Atom-----	85	Very limited Slow water movement	1.00	Somewhat limited Slope	0.92	Not limited	
4: Atom-----	50	Very limited Slow water movement	1.00	Somewhat limited Slope	0.08	Not limited	
Splittop-----	40	Very limited Depth to bedrock Slow water movement	1.00 0.50	Very limited Depth to hard bedrock Seepage Slope	1.00 0.50 0.08	Very limited Depth to bedrock	1.00
5: Bealand-----	60	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50	Very limited Slope Gravel content Carbonate content	1.00 1.00 1.00
Zeale-----	25	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50	Very limited Slope Carbonate content Gravel content	1.00 1.00 0.98
6: Blackfoot-----	85	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Seepage	1.00 0.50	Somewhat limited Depth to saturated zone	0.78
7: Bluedome-----	80	Very limited Depth to cemented pan Depth to bedrock Slow water movement	1.00 1.00 0.50	Very limited Depth to cemented pan Seepage Slope	1.00 1.00 0.32	Very limited Depth to cemented pan Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 0.05

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8: Bluedome-----	50	Very limited Depth to cemented pan Depth to bedrock Slow water movement	1.00  1.00 0.50	Very limited Depth to cemented pan Seepage Slope	1.00  1.00 0.32	Very limited Depth to cemented pan Depth to bedrock Carbonate content	1.00  1.00 1.00
McCaleb-----	30	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage Slope	0.50 0.32	Not limited	
9: Bockston-----	80	Not limited		Very limited Seepage	1.00	Somewhat limited Seepage	0.22
10: Breitenbach-----	80	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.08	Very limited Gravel content Seepage	1.00 0.52
11: Breitenbach-----	65	Very limited Seepage, bottom layer Slow water movement	1.00  0.50	Very limited Seepage Slope	1.00 0.08	Very limited Seepage Gravel content Too sandy	1.00 1.00 0.50
Stan-----	25	Very limited Filtering capacity	1.00	Very limited Seepage Slope	1.00 0.08	Very limited Seepage Too sandy Gravel content	1.00 0.50 0.17
12: Buist-----	90	Very limited Seepage, bottom layer Slow water movement	1.00  0.50	Very limited Seepage Slope	1.00 1.00	Very limited Gravel content Seepage	1.00 0.52
13: Bunting-----	95	Very limited Filtering capacity Seepage, bottom layer	1.00  1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage Gravel content	1.00 1.00 0.61
14: Coffee-----	80	Somewhat limited Depth to bedrock Slow water movement	0.86  0.50	Somewhat limited Depth to hard bedrock Seepage Slope	0.61  0.50 0.08	Somewhat limited Depth to bedrock	0.61
15: Coffee-----	45	Somewhat limited Depth to bedrock Slope Slow water movement	0.86 0.63 0.50	Very limited Slope Depth to hard bedrock Seepage	1.00 0.61  0.50	Somewhat limited Slope Depth to bedrock	0.63 0.61

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15: Nargon-----	30	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 0.63
16: Coffee-----	30	Somewhat limited Depth to bedrock Slow water movement	0.86 0.50	Very limited Slope Depth to hard bedrock Seepage	1.00 0.61 0.50	Somewhat limited Depth to bedrock	0.61
Nargon-----	30	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to bedrock	1.00
Atom-----	15	Very limited Slow water movement	1.00	Very limited Slope	1.00	Not limited	
17: Cronks-----	40	Very limited Slope Slow water movement Large stones content	1.00 0.72 0.16	Very limited Slope Large stones content Seepage	1.00 0.41 0.28	Very limited Slope Large stones content	1.00 0.27
Dacont-----	35	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Slope Gravel content Seepage	1.00 1.00 0.52
18: Crooked Creek-----	85	Very limited Slow water movement Depth to saturated zone	1.00 0.84	Somewhat limited Depth to saturated zone	0.17	Very limited Too clayey Hard to compact	1.00 1.00
19: Cryoborolls-----	50	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.89	Very limited Slope Large stones content Seepage	1.00 1.00 1.00	Very limited Slope Large stones content Gravel content Seepage	1.00 0.95 0.22 0.16
Rubble land-----	20	Not rated		Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated		Not rated	
20: Darlington-----	60	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage Slope	1.00 0.08	Very limited Seepage Gravel content Too sandy	1.00 1.00 0.50

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20: Lesbut-----	35	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 0.08	Very limited Seepage Gravel content Too sandy	1.00 1.00 0.50
21: Denied access-----	100	Not rated		Not rated		Not rated	
22: Deuce-----	45	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50	Very limited Depth to bedrock	1.00
Nargon-----	20	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to bedrock	1.00
Lava flows-----	15	Not rated		Not rated		Not rated	
23: Deuce-----	35	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage Large stones content	1.00 1.00 0.50 0.03	Very limited Depth to bedrock Slope	1.00 1.00
Nargon-----	20	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
Lava flows-----	20	Not rated		Not rated		Not rated	
24: Dickeypeak-----	50	Very limited Depth to saturated zone	1.00	Very limited Seepage Depth to saturated zone	1.00 1.00	Somewhat limited Depth to saturated zone Seepage	0.44 0.22
Bigrant-----	40	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.50	Very limited Depth to saturated zone Too clayey Hard to compact	1.00 1.00 1.00 1.00
25: Donkehill-----	85	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50	Very limited Depth to bedrock Slope Too clayey Gravel content	1.00 1.00 0.50 0.44

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
26: Dredge-----	80	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage Slope	0.50 0.08	Not limited	
27: Elbow-----	80	Very limited Depth to bedrock Depth to cemented pan Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to cemented pan Seepage Slope	1.00 1.00 0.08	Very limited Depth to cemented pan Depth to bedrock Gravel content	1.00 1.00 0.92
28: Fallert-----	80	Not limited		Very limited Seepage Slope	1.00 0.68	Very limited Gravel content Carbonate content Seepage Too sandy	1.00 1.00 0.52 0.50
29: Fallert, dry-----	80	Not limited		Very limited Seepage Slope	1.00 0.32	Very limited Gravel content Carbonate content Seepage Too sandy	1.00 1.00 0.52 0.50
30: Fandow-----	80	Very limited Depth to bedrock Depth to cemented pan	1.00 1.00	Very limited Depth to cemented pan Seepage Slope	1.00 1.00 0.32	Very limited Depth to cemented pan Depth to bedrock Gravel content Carbonate content	1.00 1.00 1.00 1.00
31: Fulwider, high precipitation-----	40	Very limited Depth to bedrock Depth to cemented pan Slope	1.00 1.00 0.96	Very limited Depth to cemented pan Slope Seepage	1.00 1.00 0.50	Very limited Depth to cemented pan Depth to bedrock Slope Seepage Gravel content	1.00 1.00 0.96 0.52 0.24
Fulwider, low precipitation-----	30	Very limited Depth to bedrock Depth to cemented pan Slope	1.00 1.00 0.96	Very limited Depth to cemented pan Seepage Slope	1.00 1.00 1.00	Very limited Depth to cemented pan Depth to bedrock Slope Gravel content Seepage	1.00 1.00 0.96 0.78 0.52

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31: Fulwider-----	15	Very limited Depth to bedrock Depth to cemented pan Slope	1.00 1.00 0.96	Very limited Depth to cemented pan Seepage Slope	1.00 1.00 1.00	Very limited Depth to cemented pan Depth to bedrock Seepage Slope Gravel content	1.00 1.00 1.00 0.96 0.15
32: Goosebury, high precipitation-----	90	Somewhat limited Slope	0.84	Very limited Seepage Slope	1.00 1.00	Very limited Gravel content Slope Seepage	1.00 0.84 0.52
33: Goosebury-----	80	Not limited		Very limited Seepage Slope	1.00 0.68	Very limited Gravel content Seepage	1.00 0.52
34: Goosebury, low precipitation-----	45	Very limited Slope	1.00	Very limited Slope Seepage	1.00 1.00	Very limited Gravel content Slope Seepage	1.00 1.00 0.52
Goosebury, high precipitation-----	35	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Gravel content Slope Seepage	1.00 1.00 0.52
35: Hagenbarth-----	30	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
Howcan-----	25	Very limited Slope Seepage, bottom layer Large stones content Depth to bedrock Slow water movement	1.00 1.00 1.00 0.59 0.50	Very limited Slope Seepage Large stones content Depth to hard bedrock	1.00 1.00 1.00 0.13	Very limited Slope Large stones Depth to bedrock	1.00 1.00 0.14
Jonda-----	20	Very limited Seepage, bottom layer Filtering capacity Slope Large stones content	1.00 1.00 1.00 1.00	Very limited Seepage Slope Large stones content	1.00 1.00 1.00	Very limited Seepage Slope Large stones	1.00 1.00 1.00

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
36: Hal-----	60	Very limited Slope Seepage, bottom layer Slow water movement	1.00 1.00 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Gravel content Too sandy	1.00 1.00 1.00 0.50
Moonville-----	25	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50	Very limited Slope	1.00
37: Hondoho-----	85	Very limited Slope Slow water movement Large stones content	1.00 0.50 0.01	Very limited Slope Seepage Large stones content	1.00 0.50 0.08	Very limited Slope Gravel content Large stones content	1.00 0.16 0.01
38: Howcan-----	50	Very limited Slope Seepage, bottom layer Large stones content Depth to bedrock Slow water movement	1.00 1.00 1.00 0.59 0.50	Very limited Slope Seepage Large stones content Depth to hard bedrock	1.00 1.00 1.00 0.13	Very limited Slope Large stones Depth to bedrock	1.00 1.00 0.14
Hutchley-----	35	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.06	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Too clayey Large stones content Gravel content	1.00 1.00 0.50 0.06 0.02
Rock outcrop-----	10	Not rated		Not rated		Not rated	
39: Howcan-----	35	Very limited Slope Seepage, bottom layer Large stones content Depth to bedrock Slow water movement	1.00 1.00 1.00 0.59 0.50	Very limited Slope Seepage Large stones content Depth to hard bedrock	1.00 1.00 1.00 0.13	Very limited Slope Large stones Depth to bedrock	1.00 1.00 0.14
Zeebar-----	25	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope Seepage	1.00 0.50	Very limited Slope Gravel content Too clayey	1.00 0.86 0.50

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39: Hutchley-----	20	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.06	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Too clayey Large stones content Gravel content	1.00 1.00 0.50 0.06 0.02
40: Huddle-----	65	Somewhat limited Depth to bedrock Slow water movement	0.78 0.50	Very limited Slope Seepage Depth to hard bedrock	1.00 0.50 0.42	Somewhat limited Depth to bedrock	0.42
Moonville-----	20	Somewhat limited Slow water movement	0.50	Very limited Slope Seepage	1.00 0.50	Not limited	
41: Ike-----	40	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.70	Very limited Depth to hard bedrock Slope Large stones content Seepage	1.00 1.00 1.00 0.50	Very limited Depth to bedrock Slope Carbonate content Large stones content Gravel content	1.00 1.00 1.00 0.70 0.34
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Jimbee-----	15	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50	Very limited Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 0.60
42: Ike-----	45	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.70	Very limited Depth to hard bedrock Slope Large stones content Seepage	1.00 1.00 1.00 0.50	Very limited Depth to bedrock Slope Carbonate content Large stones content Gravel content	1.00 1.00 1.00 0.70 0.34
Simeroi-----	30	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Slope Gravel content Carbonate content Seepage	1.00 1.00 1.00 0.22
Rock outcrop-----	10	Not rated		Not rated		Not rated	



## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43: Inel-----	35	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.15	Very limited Depth to hard bedrock Slope Seepage Large stones content	1.00 1.00 1.00 1.00 0.83	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.15
Matheson-----	30	Very limited Slope Depth to bedrock	1.00 0.94	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.84	Very limited Slope Depth to bedrock Seepage	1.00 0.84 0.52
Rock outcrop-----	25	Not rated		Not rated		Not rated	
44: Inel-----	55	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.01	Very limited Depth to hard bedrock Slope Seepage Large stones content	1.00 1.00 1.00 1.00 0.26	Very limited Depth to bedrock Slope Carbonate content Seepage Large stones content	1.00 1.00 1.00 0.22 0.01
Slide-----	15	Very limited Slope	1.00	Very limited Slope Seepage	1.00 1.00	Very limited Gravel content Slope Carbonate content Seepage	1.00 1.00 1.00 0.22
Rock outcrop-----	15	Not rated		Not rated		Not rated	
45: Jimbee-----	40	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00 0.50	Very limited Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 0.60
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Ike-----	15	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.70	Very limited Depth to hard bedrock Slope Large stones content Seepage	1.00 1.00 1.00 1.00 0.50	Very limited Depth to bedrock Slope Carbonate content Large stones content Gravel content	1.00 1.00 1.00 0.70 0.34
46: Jimbee-----	40	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.01	Very limited Depth to hard bedrock Slope Seepage Large stones content	1.00 1.00 1.00 0.50 0.10	Very limited Depth to bedrock Slope Carbonate content Gravel content Large stones content	1.00 1.00 1.00 0.09 0.01

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
46: Skibo-----	30	Very limited Slope Seepage, bottom layer Slow water movement	1.00 1.00 0.50	Very limited Slope Seepage Large stones content	1.00 1.00 0.02	Very limited Slope Gravel content Carbonate content Seepage	1.00 1.00 1.00 0.22
Ike-----	15	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.70	Very limited Depth to hard bedrock Slope Large stones content Seepage	1.00 1.00 1.00 0.50	Very limited Depth to bedrock Slope Carbonate content Large stones content Gravel content	1.00 1.00 1.00 0.70 0.34
47: Justesen-----	45	Very limited Slow water movement Slope	1.00 0.37	Very limited Slope Seepage	1.00 0.50	Somewhat limited Slope	0.37
Drage-----	40	Very limited Slow water movement Slope Large stones content	1.00 0.84 0.07	Very limited Slope Seepage	1.00 0.50	Somewhat limited Slope Large stones content Gravel content	0.84 0.33 0.04
48: Ketchum-----	50	Very limited Slope Seepage, bottom layer	1.00 1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Gravel content Seepage	1.00 1.00 0.52
Povey-----	30	Very limited Slope Large stones content Depth to bedrock Slow water movement	1.00 1.00 0.52 0.50	Very limited Slope Large stones content Seepage Depth to hard bedrock	1.00 0.93 0.50 0.08	Very limited Slope Large stones Depth to bedrock Gravel content	1.00 1.00 0.08 0.01
49: Kimama-----	90	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage	0.50	Not limited	
50: Klug-----	90	Very limited Seepage, bottom layer Slope	1.00 0.16	Very limited Slope Seepage	1.00 1.00	Somewhat limited Gravel content Seepage Slope	1.00 0.22 0.16
51: Klug-----	60	Very limited Slope Seepage, bottom layer	1.00 1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Gravel content Seepage	1.00 1.00 0.22

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
51: Parvis-----	20	Very limited Slope Slow water movement Large stones content	1.00 1.00 0.79	Very limited Slope Large stones content Seepage	1.00 0.61 0.50	Very limited Slope Large stones content	1.00 0.99
52: Lag-----	90	Very limited Slope Seepage, bottom layer	1.00 1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Gravel content Seepage	1.00 1.00 0.52
53: Lavacreek-----	65	Very limited Slope Seepage, bottom layer Large stones content Depth to bedrock	1.00 1.00 0.80 0.30	Very limited Slope Seepage Large stones content	1.00 1.00 1.00	Very limited Slope Large stones content Seepage Gravel content	1.00 0.91 0.52 0.30
Dollarhide-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00	Very limited Depth to bedrock Slope Gravel content	1.00 1.00 0.46
54: Lavacreek-----	45	Very limited Slope Seepage, bottom layer Large stones content Depth to bedrock	1.00 1.00 0.80 0.30	Very limited Slope Seepage Large stones content	1.00 1.00 1.00	Very limited Slope Large stones content Seepage Gravel content	1.00 0.91 0.52 0.30
Dollarhide-----	20	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00	Very limited Depth to bedrock Slope Gravel content	1.00 1.00 0.46
Grassycone-----	20	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Gravel content	1.00 1.00 0.93
55: Lavacreek-----	45	Very limited Slope Seepage, bottom layer Large stones content Depth to bedrock	1.00 1.00 0.80 0.30	Very limited Slope Seepage Large stones content	1.00 1.00 1.00	Very limited Slope Large stones content Seepage Gravel content	1.00 0.91 0.52 0.30

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
55: Vitale-----	35	Very limited Slope Slow water movement Depth to bedrock Large stones content	1.00 1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Large stones content Seepage	1.00 1.00 1.00 1.00 0.50	Very limited Slope Depth to bedrock Large stones Too clayey	1.00 1.00 1.00 0.50
56: Lava flows-----	100	Not rated		Not rated		Not rated	
57: Lava flows-----	70	Not rated		Not rated		Not rated	
Cinderhurst-----	20	Very limited Depth to bedrock Large stones content Slope	1.00 1.00 0.04	Very limited Depth to hard bedrock Slope Large stones content	1.00 1.00 1.00 0.16	Very limited Depth to bedrock Large stones Slope	1.00 1.00 0.04
58: Lava flows-----	60	Not rated		Not rated		Not rated	
Pingree-----	35	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock	1.00
59: Leatherman-----	45	Very limited Depth to bedrock Depth to cemented pan Slope	1.00 1.00 1.00	Very limited Depth to cemented pan Slope Seepage	1.00 1.00 1.00	Very limited Depth to cemented pan Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.92
Adek, dry-----	20	Somewhat limited Slope Slow water movement	0.84 0.50	Very limited Slope Seepage	1.00 0.50	Very limited Gravel content Carbonate content Slope Large stones content	1.00 1.00 0.84 0.02
Adek-----	15	Very limited Slope Large stones content Slow water movement	1.00 0.50 0.50	Very limited Slope Seepage	1.00 0.50	Very limited Slope Carbonate content Large stones content Gravel content	1.00 1.00 0.90 0.74
60: Leatherman-----	45	Very limited Depth to bedrock Depth to cemented pan	1.00 1.00	Very limited Depth to cemented pan Seepage Slope	1.00 1.00 0.68	Very limited Depth to cemented pan Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.92

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
60: Bluedome-----	30	Very limited Depth to cemented pan Depth to bedrock	1.00 1.00	Very limited Depth to cemented pan Seepage Slope	1.00 1.00 0.68	Very limited Depth to cemented pan Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 0.03
61: Malm-----	60	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Seepage Slope	1.00 1.00 0.68	Very limited Depth to bedrock Seepage	1.00 0.52
Bondfarm-----	20	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00 0.68	Very limited Depth to bedrock Seepage	1.00 0.52
Matheson-----	15	Somewhat limited Depth to bedrock	0.94	Very limited Seepage Depth to hard bedrock Slope	1.00 0.84 0.68	Somewhat limited Depth to bedrock Seepage	0.84 0.52
62: Matheson-----	70	Somewhat limited Depth to bedrock Slope	0.94 0.04	Very limited Seepage Slope Depth to hard bedrock	1.00 1.00 0.84	Somewhat limited Depth to bedrock Seepage Slope	0.84 0.52 0.04
Grassy Butte-----	20	Very limited Filtering capacity Slope	1.00 0.96	Very limited Slope Seepage	1.00 1.00	Very limited Seepage Slope Too sandy	1.00 0.96 0.50
63: McCain-----	65	Very limited Depth to bedrock Slow water movement	1.00 0.50	Very limited Depth to hard bedrock Seepage Slope	1.00 0.50 0.08	Very limited Depth to bedrock	1.00
Thornock-----	20	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Seepage Slope	1.00 0.50 0.08	Very limited Depth to bedrock	1.00
64: McCarey-----	45	Very limited Depth to bedrock Slow water movement	1.00 0.50	Very limited Depth to hard bedrock Seepage Slope	1.00 0.50 0.32	Very limited Depth to bedrock	1.00

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64: Beartrap-----	35	Somewhat limited Depth to bedrock Slow water movement	0.69 0.50	Somewhat limited Seepage Slope Depth to hard bedrock	0.50 0.32 0.26	Somewhat limited Depth to bedrock	0.26
65: McCarey-----	60	Very limited Depth to bedrock Slope Slow water movement	1.00 0.84 0.50	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50	Very limited Depth to bedrock Slope	1.00 0.84
Beartrap-----	25	Somewhat limited Slope Depth to bedrock Slow water movement	0.84 0.69 0.50	Very limited Slope Seepage Depth to hard bedrock	1.00 0.50 0.26	Somewhat limited Slope Depth to bedrock	0.84 0.26
66: McCarey-----	40	Very limited Depth to bedrock Slow water movement Slope	1.00 0.50 0.04	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50	Very limited Depth to bedrock Slope	1.00 0.04
Beartrap-----	30	Somewhat limited Depth to bedrock Slow water movement Slope	0.69 0.50 0.04	Very limited Slope Seepage Depth to hard bedrock	1.00 0.50 0.26	Somewhat limited Depth to bedrock Slope	0.26 0.04
Rock outcrop-----	25	Not rated		Not rated		Not rated	
67: McCarey-----	40	Very limited Depth to bedrock Slow water movement Slope	1.00 0.50 0.04	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50	Very limited Depth to bedrock Too clayey Slope	1.00 0.50 0.04
Molyneux-----	25	Very limited Slow water movement	1.00	Somewhat limited Slope Seepage	0.68 0.50	Not limited	
Lava flows-----	20	Not rated		Not rated		Not rated	
68: McCarey-----	55	Very limited Depth to bedrock Slow water movement	1.00 0.50	Very limited Depth to hard bedrock Slope Seepage	1.00 0.92 0.50	Very limited Depth to bedrock	1.00
Splittop-----	20	Very limited Depth to bedrock Slow water movement	1.00 0.50	Very limited Depth to hard bedrock Slope Seepage	1.00 0.92 0.50	Very limited Depth to bedrock	1.00

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68: Lava flows-----	15	Not rated		Not rated		Not rated	
69: McCarey-----	45	Very limited Depth to bedrock Slow water movement Slope	1.00 0.50 0.04	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50	Very limited Depth to bedrock Slope	1.00 0.04
Vickton-----	20	Very limited Slow water movement Depth to bedrock	1.00 0.36	Somewhat limited Slope Depth to hard bedrock	0.92 0.01	Somewhat limited Too clayey Depth to bedrock	0.50 0.01
Lava flows-----	15	Not rated		Not rated		Not rated	
70: McClenden-----	55	Somewhat limited Depth to bedrock Depth to cemented pan	0.73 0.73	Very limited Seepage Depth to cemented pan Depth to hard bedrock Slope	1.00 0.32 0.18 0.08	Somewhat limited Seepage Depth to bedrock Depth to cemented pan	0.52 0.32 0.32
Thornock-----	20	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Seepage Slope	1.00 0.50 0.08	Very limited Depth to bedrock	1.00
71: Medicine-----	60	Somewhat limited Slow water movement	0.50	Very limited Seepage	1.00	Very limited Seepage Gravel content Too sandy	1.00 0.78 0.50
Whiteknob-----	25	Very limited Filtering capacity	1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage Gravel content	1.00 1.00 1.00
72: Menan-----	85	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.50	Not limited	
73: Mogg-----	45	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.19	Very limited Depth to hard bedrock Slope Seepage Large stones content	1.00 1.00 0.50 0.02	Very limited Depth to bedrock Slope Gravel content Large stones content	1.00 1.00 0.24 0.19

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
73: Shagel-----	30	Very limited Depth to bedrock Slope Seepage, bottom layer Large stones content	1.00 1.00 1.00 0.09	Very limited Depth to hard bedrock Slope Seepage Large stones content	1.00 1.00 1.00 1.00 0.21	Very limited Depth to bedrock Slope Gravel content Seepage Large stones content	1.00 1.00 0.85 0.52 0.09
74: Mooretown-----	50	Very limited Flooding Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 1.00 0.50	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00	Somewhat limited Depth to saturated zone	0.68
Borah-----	40	Very limited Flooding Depth to saturated zone Filtering capacity Seepage, bottom layer	1.00 1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00	Very limited Too sandy Seepage Gravel content Depth to saturated zone	1.00 1.00 1.00 1.00
75: Mooretown, drained--	50	Very limited Flooding Seepage, bottom layer Slow water movement	1.00 1.00 0.50	Very limited Flooding Seepage	1.00 1.00	Not limited	
Borco-----	30	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage	1.00	Very limited Seepage Gravel content Too sandy	1.00 1.00 0.50
76: Nargon-----	35	Very limited Depth to bedrock Slope	1.00 0.37	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 0.37
Atom-----	30	Very limited Slow water movement Slope	1.00 0.37	Very limited Slope	1.00	Somewhat limited Slope	0.37
Techicknot-----	25	Very limited Slow water movement	1.00	Somewhat limited Slope Seepage	0.92 0.28	Not limited	



## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77: Nargon-----	50	Very limited Depth to bedrock Slope	1.00 0.37	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 0.37
Deuce-----	20	Very limited Depth to bedrock Slope	1.00 0.37	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50	Very limited Depth to bedrock Slope	1.00 0.37
Lava flows-----	10	Not rated		Not rated		Not rated	
78: Nitchly-----	75	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope Seepage Large stones content	1.00 0.50 0.01	Very limited Slope Carbonate content Gravel content	1.00 1.00 0.91
79: Nurkey-----	50	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00	Very limited Slope Gravel content Large stones content	1.00 0.60 0.02
Dacont-----	30	Very limited Slope	1.00	Very limited Seepage Slope	1.00 1.00	Very limited Gravel content Slope Seepage	1.00 1.00 0.52
80: Nurkey-----	50	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope	1.00	Very limited Slope Gravel content Large stones content	1.00 0.60 0.02
Dacont-----	35	Very limited Slope	1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Gravel content Seepage	1.00 1.00 0.52
81: Nurkey-----	80	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope Seepage	1.00 0.50	Very limited Slope Gravel content Large stones content	1.00 0.58 0.01
Nurkey, low precipitation-----	20	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope Seepage	1.00 0.50	Very limited Slope Gravel content Large stones content	1.00 0.60 0.01

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
82: Calcids-----	50	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Seepage Large stones content	1.00 1.00 0.04	Very limited Slope Gravel content Seepage Large stones content	1.00 1.00 0.22 0.01
Rubble land-----	20	Not rated		Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated		Not rated	
83: Packmo-----	50	Somewhat limited Slope	0.16	Very limited Slope Seepage	1.00 1.00	Somewhat limited Gravel content Seepage Slope	0.98 0.22 0.16
Snowslide-----	40	Somewhat limited Slow water movement Slope	0.50 0.16	Very limited Slope Seepage	1.00 0.50	Very limited Gravel content Slope	1.00 0.16
84: Paint-----	45	Very limited Depth to bedrock Depth to cemented pan Slope	1.00 1.00 0.01	Very limited Depth to cemented pan Seepage Slope	1.00 1.00 1.00	Very limited Depth to cemented pan Depth to bedrock Carbonate content Gravel content Slope	1.00 1.00 1.00 0.48 0.01
Fallert-----	40	Somewhat limited Slope	0.01	Very limited Seepage Slope	1.00 1.00	Very limited Gravel content Carbonate content Seepage Too sandy Slope	1.00 1.00 0.52 0.50 0.01
85: Paint-----	65	Very limited Depth to bedrock Depth to cemented pan	1.00 1.00	Very limited Depth to cemented pan Seepage Slope	1.00 1.00 0.08	Very limited Depth to cemented pan Depth to bedrock Carbonate content Gravel content	1.00 1.00 1.00 0.81
Whitecloud-----	20	Very limited Filtering capacity	1.00	Very limited Seepage Slope	1.00 0.08	Very limited Seepage Carbonate content Gravel content Too sandy	1.00 1.00 1.00 0.50
86: Pancheri-----	80	Somewhat limited Slow water movement	0.50	Somewhat limited Slope Seepage	0.68 0.50	Not limited	

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
87: Pancheri-----	45	Somewhat limited Slow water movement	0.50	Very limited Slope Seepage	1.00 0.50	Not limited	
Polatis-----	30	Very limited Depth to bedrock Slow water movement	1.00 0.50	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50	Very limited Depth to bedrock	1.00
88: Playas-----	100	Not rated		Not rated		Not rated	
89: Polatis-----	90	Very limited Depth to bedrock Slow water movement	1.00 0.50	Very limited Depth to hard bedrock Seepage	1.00 0.50	Very limited Depth to bedrock	1.00
90: Portino-----	55	Very limited Depth to bedrock Slow water movement	1.00 0.50	Very limited Depth to hard bedrock Seepage Slope	1.00 0.50 0.08	Very limited Depth to bedrock	1.00
Thornock-----	30	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Seepage Slope	1.00 0.50 0.08	Very limited Depth to bedrock	1.00
91: Riverlost-----	45	Very limited Slow water movement Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Slope Too clayey	1.00 0.50
Frymire-----	40	Very limited Slow water movement Slope Large stones content	1.00 1.00 1.00	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Too clayey Hard to compact Large stones	1.00 1.00 1.00 1.00
92: Riverlost-----	60	Very limited Slow water movement Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Slope Too clayey	1.00 0.50
Grouseville-----	20	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00	Very limited Slope Hard to compact Too clayey	1.00 1.00 0.50

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
93: Riverlost-----	55	Very limited Slow water movement Seepage, bottom layer Slope	1.00  1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Slope Too clayey	1.00 0.50
Soen-----	30	Very limited Slow water movement Slope	1.00  1.00	Very limited Slope	1.00	Very limited Slope	1.00
94: Rubble land-----	40	Not rated		Not rated		Not rated	
Milligan-----	35	Very limited Slope Seepage, bottom layer Depth to bedrock Large stones content	1.00 1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage Large stones content	1.00 1.00 1.00 1.00	Very limited Slope Depth to bedrock Large stones Seepage Gravel content	1.00 1.00 1.00 0.52 0.23
95: Sanfelipe-----	85	Somewhat limited Slow water movement	0.50	Very limited Seepage Slope	1.00 0.92	Very limited Gravel content Carbonate content	1.00 1.00
96: Sanfelipe-----	90	Somewhat limited Slow water movement Slope	0.50  0.16	Very limited Slope Seepage	1.00 1.00	Very limited Gravel content Carbonate content Slope	1.00 1.00 0.16
97: Sanfelipe-----	65	Somewhat limited Slow water movement	0.50	Very limited Seepage	1.00	Very limited Carbonate content Seepage Gravel content	1.00 1.00 0.88
McCaleb-----	25	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage	0.50	Very limited Carbonate content	1.00
98: Sanfelipe-----	70	Somewhat limited Slow water movement	0.50	Very limited Seepage Slope	1.00 0.08	Very limited Gravel content Carbonate content	1.00 1.00
Simeroi-----	20	Somewhat limited Slow water movement	0.50	Very limited Seepage Slope	1.00 0.08	Very limited Gravel content Carbonate content Seepage	1.00 1.00 0.22
99: Simeroi-----	85	Somewhat limited Slow water movement	0.50	Very limited Seepage Slope	1.00 0.32	Very limited Gravel content Carbonate content Seepage	1.00 1.00 0.22

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
100: Simeroi-----	75	Somewhat limited Slow water movement Slope	0.50  0.04	Very limited Slope Seepage	1.00  1.00	Very limited Gravel content Carbonate content Seepage Slope	1.00 1.00 0.22 0.04
101: Simeroi-----	85	Somewhat limited Slow water movement Slope	0.50  0.16	Very limited Slope Seepage	1.00  1.00	Very limited Gravel content Carbonate content Seepage Slope	1.00 1.00 0.22 0.16
102: Simeroi, cool-----	85	Somewhat limited Slope Slow water movement	0.96  0.50	Very limited Seepage Slope	1.00  1.00	Very limited Gravel content Carbonate content Slope Seepage	1.00 1.00 0.96 0.22
103: Simeroi, dry-----	80	Very limited Slope Slow water movement	1.00  0.50	Very limited Slope Seepage	1.00  1.00	Very limited Gravel content Slope Carbonate content Seepage	1.00 1.00 1.00 0.22
104: Simeroi-----	60	Somewhat limited Slow water movement	0.50	Very limited Seepage Slope	1.00  0.68	Very limited Gravel content Carbonate content Seepage	1.00 1.00 0.22
Paint-----	25	Very limited Depth to bedrock Depth to cemented pan	1.00  1.00	Very limited Depth to cemented pan Seepage Slope	1.00  1.00  0.68	Very limited Depth to cemented pan Depth to bedrock Carbonate content Gravel content	1.00  1.00 1.00 0.47
105: Simeroi, dry-----	50	Very limited Slope Slow water movement	1.00  0.50	Very limited Slope Seepage	1.00  1.00	Very limited Gravel content Slope Carbonate content Seepage	1.00 1.00 1.00 0.22
Simeroi-----	30	Very limited Slope Slow water movement	1.00  0.50	Very limited Slope Seepage	1.00  1.00	Very limited Gravel content Slope Carbonate content Seepage	1.00 1.00 1.00 0.22
106: Simeroi-----	60	Somewhat limited Slow water movement Slope	0.50  0.01	Very limited Slope Seepage	1.00  1.00	Very limited Gravel content Carbonate content Seepage Slope	1.00 1.00 0.22 0.01

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
106: Sparmo-----	25	Somewhat limited Slow water movement Slope	0.50 0.01	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage Slope	0.52 0.01
107: Simeroi-----	40	Somewhat limited Slow water movement	0.50	Very limited Seepage Slope	1.00 0.32	Very limited Gravel content Carbonate content Seepage	1.00 1.00 0.22
Slide-----	35	Not limited		Very limited Seepage Slope	1.00 0.32	Very limited Gravel content Carbonate content Seepage	1.00 1.00 0.22
McCaleb-----	15	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage Slope	0.50 0.32	Very limited Carbonate content	1.00
108: Simeroi-----	40	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Slope Gravel content Carbonate content Seepage	1.00 1.00 1.00 0.22
Bealand-----	40	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50	Very limited Slope Gravel content Carbonate content	1.00 1.00 1.00
109: Slide-----	80	Not limited		Very limited Seepage Slope	1.00 0.92	Very limited Seepage Gravel content Carbonate content Too sandy	1.00 1.00 1.00 0.50
110: Snowslide-----	80	Somewhat limited Slow water movement	0.50	Somewhat limited Slope Seepage	0.92 0.50	Somewhat limited Gravel content	1.00
111: Snowslide-----	85	Somewhat limited Slope Slow water movement	0.84 0.50	Very limited Slope Seepage	1.00 0.50	Very limited Gravel content Slope	1.00 0.84
112: Snowslide-----	80	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage Slope	0.50 0.08	Very limited Gravel content	1.00
Zer-----	15	Not limited		Very limited Seepage Slope	1.00 0.08	Very limited Seepage Gravel content Too sandy	1.00 1.00 0.50

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113: Snowslide-----	35	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50	Very limited Slope Gravel content	1.00 1.00
Zer-----	30	Very limited Slope	1.00	Very limited Seepage Slope	1.00 1.00	Very limited Slope Seepage Gravel content Too sandy	1.00 1.00 1.00 0.50
Snowslide, low precipitation-----	20	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50	Very limited Gravel content Slope	1.00 1.00
114: Soen-----	80	Very limited Slow water movement	1.00	Not limited		Not limited	
115: Soen-----	70	Very limited Slow water movement Slope	1.00 0.01	Very limited Slope	1.00	Somewhat limited Slope	0.01
Justesen-----	25	Very limited Slow water movement Slope	1.00 0.01	Very limited Slope Seepage	1.00 0.50	Somewhat limited Slope	0.01
116: Sparmo-----	75	Somewhat limited Slow water movement	0.50	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.52
117: Sparmo-----	50	Somewhat limited Slow water movement	0.50	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.52
Bluedome-----	35	Very limited Depth to cemented pan Depth to bedrock	1.00 1.00	Very limited Depth to cemented pan Seepage Slope	1.00 1.00 0.08	Very limited Depth to cemented pan Depth to bedrock Carbonate content	1.00 1.00 1.00
118: Sparmo-----	45	Somewhat limited Slow water movement	0.50	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.52
Zer-----	45	Not limited		Very limited Seepage Slope	1.00 0.08	Very limited Seepage Gravel content Too sandy	1.00 0.76 0.50

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
119: Splittop-----	50	Very limited Depth to bedrock Slow water movement	1.00 0.50	Very limited Depth to hard bedrock Seepage Slope	1.00 0.50 0.32	Very limited Depth to bedrock	1.00
Atomic-----	30	Somewhat limited Depth to bedrock Slow water movement	0.91 0.50	Somewhat limited Depth to hard bedrock Seepage Slope	0.77 0.50 0.32	Somewhat limited Depth to bedrock	0.77
120: Splittop-----	50	Very limited Depth to bedrock Slow water movement	1.00 0.50	Very limited Depth to hard bedrock Seepage Slope	1.00 0.50 0.32	Very limited Depth to bedrock	1.00
Coffee-----	30	Somewhat limited Depth to bedrock Slow water movement	0.86 0.50	Somewhat limited Depth to hard bedrock Seepage Slope	0.61 0.50 0.32	Somewhat limited Depth to bedrock	0.61
121: Stan-----	95	Not limited		Very limited Seepage Slope	1.00 0.08	Somewhat limited Gravel content Seepage	0.62 0.52
122: Stan-----	55	Not limited		Very limited Seepage Slope	1.00 0.08	Somewhat limited Gravel content Seepage	0.60 0.52
Breitenbach-----	30	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage Slope	1.00 0.08	Very limited Seepage Gravel content Too sandy	1.00 1.00 0.50
123: Stan, loamy fine sand surface-----	70	Not limited		Very limited Seepage Slope	1.00 0.08	Very limited Seepage Too sandy Gravel content	1.00 0.50 0.28
Stan-----	25	Not limited		Very limited Seepage Slope	1.00 0.08	Somewhat limited Gravel content Seepage	0.62 0.52
124: Starlite-----	80	Very limited Slow water movement	1.00	Very limited Seepage	1.00	Very limited Carbonate content	1.00



## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
125: Techick-----	50	Very limited Slow water movement	1.00	Very limited Seepage Slope	1.00 0.92	Not limited	
Soelberg-----	45	Very limited Slow water movement	1.00	Very limited Seepage Slope	1.00 0.92	Very limited Too sandy Seepage Gravel content	1.00 1.00 0.62
126: Techick-----	40	Very limited Slow water movement	1.00	Very limited Seepage	1.00	Not limited	
Soelberg-----	35	Very limited Slow water movement	1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage Gravel content	1.00 1.00 0.53
Lesbut-----	15	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage	1.00	Very limited Seepage Gravel content Too sandy	1.00 1.00 0.50
127: Techicknot-----	45	Very limited Slow water movement	1.00	Somewhat limited Slope Seepage	0.92 0.28	Not limited	
Atom-----	25	Very limited Slow water movement	1.00	Very limited Slope	1.00	Not limited	
Nargon-----	20	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to bedrock	1.00
128: Tenno-----	50	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 0.92 0.50	Very limited Depth to bedrock	1.00
Splittop-----	25	Very limited Depth to bedrock Slow water movement	1.00 0.50	Very limited Depth to hard bedrock Slope Seepage	1.00 0.92 0.50	Very limited Depth to bedrock	1.00
Lava flows-----	15	Not rated		Not rated		Not rated	

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129: Tenno-----	45	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Seepage Slope	1.00 0.50 0.08	Very limited Depth to bedrock	1.00
Splittop-----	25	Very limited Depth to bedrock Slow water movement	1.00 0.50	Very limited Depth to hard bedrock Seepage Slope	1.00 0.50 0.08	Very limited Depth to bedrock	1.00
McCarey-----	20	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Seepage Slope	1.00 0.50 0.08	Very limited Depth to bedrock Too clayey	1.00 0.50
130: Thornock-----	45	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 0.92 0.50	Very limited Depth to bedrock	1.00
Portino-----	35	Very limited Depth to bedrock Slow water movement	1.00 0.50	Very limited Depth to hard bedrock Slope Seepage	1.00 0.92 0.50	Very limited Depth to bedrock	1.00
131: Thornock-----	50	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50	Very limited Depth to bedrock Slope	1.00 0.16
Portino-----	25	Very limited Depth to bedrock Slow water movement Slope	1.00 0.50 0.16	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50	Very limited Depth to bedrock Slope	1.00 0.16
132: Thosand-----	50	Very limited Flooding Depth to saturated zone Seepage, bottom layer Ponding Slow water movement	1.00 1.00 1.00 1.00 0.50	Very limited Flooding Seepage Depth to saturated zone Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
132: Sancrane-----	25	Very limited Depth to saturated zone Seepage, bottom layer Ponding Slow water movement	1.00  1.00 1.00 0.50	Very limited Seepage Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Seepage Ponding Gravel content Too sandy	1.00 1.00 1.00 0.98 0.50
133: Truesdale-----	45	Very limited Depth to cemented pan Depth to bedrock	1.00 1.00	Very limited Depth to cemented pan Seepage Depth to hard bedrock	1.00 1.00 0.02	Very limited Depth to cemented pan Depth to bedrock Seepage	1.00 1.00 0.52
Minidoka-----	40	Very limited Depth to cemented pan Depth to bedrock Slow water movement	1.00 1.00 0.50	Very limited Depth to cemented pan Seepage	1.00 0.50	Very limited Depth to cemented pan Depth to bedrock	1.00 1.00
134: Vitale-----	45	Very limited Slow water movement Depth to bedrock Large stones content Slope	1.00 1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Large stones content Seepage	1.00 1.00 1.00 0.50	Very limited Depth to bedrock Large stones Slope Too clayey	1.00 1.00 1.00 0.50
Blackspar-----	35	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Large stones content	1.00 1.00 0.78	Very limited Depth to bedrock Slope Large stones Gravel content	1.00 1.00 1.00 0.02
135: Whitecloud-----	75	Very limited Filtering capacity	1.00	Very limited Seepage Slope	1.00 0.08	Very limited Seepage Carbonate content Gravel content Too sandy	1.00 1.00 1.00 0.50
136: Whitecloud-----	55	Very limited Filtering capacity	1.00	Very limited Seepage Slope	1.00 0.08	Very limited Seepage Carbonate content Gravel content Too sandy	1.00 1.00 1.00 0.50
Sanfelipe-----	25	Somewhat limited Slow water movement	0.50	Very limited Seepage	1.00	Very limited Carbonate content Seepage Gravel content	1.00 1.00 0.98

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
137: Zeale-----	70	Somewhat limited Slow water movement Slope	0.50 0.37	Very limited Slope Seepage	1.00 0.50	Very limited Carbonate content Gravel content Slope	1.00 1.00 0.37
Zeale, high precipitation-----	25	Somewhat limited Slow water movement Slope	0.50 0.37	Very limited Slope Seepage	1.00 0.50	Very limited Carbonate content Gravel content Slope	1.00 0.98 0.37
138: Zeale-----	70	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50	Very limited Slope Carbonate content Gravel content	1.00 1.00 1.00
Zeale, high precipitation-----	25	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50	Very limited Slope Carbonate content Gravel content	1.00 1.00 0.98
139: Zeale-----	35	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50	Very limited Slope Carbonate content Gravel content	1.00 1.00 0.98
Coalkiln-----	25	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50	Very limited Slope Carbonate content Gravel content	1.00 1.00 0.85
Jimbee-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.50	Very limited Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 0.85
140: Zeebar, cool-----	55	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope Seepage	1.00 0.50	Very limited Slope Gravel content Too clayey	1.00 0.95 0.50
Zeebar-----	30	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope Seepage	1.00 0.50	Very limited Slope Gravel content Too clayey	1.00 0.86 0.50
141: Zeebar-----	40	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope Seepage	1.00 0.50	Very limited Slope Gravel content	1.00 0.82

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
141: Parvis-----	25	Very limited Slope Slow water movement Large stones content	1.00 1.00 0.79	Very limited Slope Large stones content Seepage	1.00 0.61 0.50	Very limited Slope Large stones content	1.00 0.99
Howcan-----	20	Very limited Slope Seepage, bottom layer Large stones content Depth to bedrock Slow water movement	1.00 1.00 1.00 0.59 0.50	Very limited Slope Seepage Large stones content Depth to hard bedrock	1.00 1.00 1.00 0.13	Very limited Slope Large stones Depth to bedrock	1.00 1.00 0.14
142: Zer-----	85	Not limited		Very limited Seepage Slope	1.00 0.08	Somewhat limited Gravel content Seepage	0.84 0.52
143: Zer-----	85	Somewhat limited Slope	0.01	Very limited Seepage Slope	1.00 1.00	Very limited Gravel content Too sandy Seepage Slope	1.00 0.50 0.22 0.01
144: Zer-----	95	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Seepage Slope	1.00 1.00	Very limited Gravel content Slope	1.00 0.63
145: Zer-----	80	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Gravel content Too sandy	1.00 1.00 0.98 0.50
146: Zer-----	45	Somewhat limited Slope	0.16	Very limited Seepage Slope	1.00 1.00	Very limited Gravel content Seepage Slope	1.00 0.52 0.16
Snowslide-----	40	Somewhat limited Slow water movement Slope	0.50 0.16	Very limited Slope Seepage	1.00 0.50	Somewhat limited Gravel content Slope	0.99 0.16
147: Zer-----	65	Not limited		Very limited Seepage Slope	1.00 0.08	Very limited Seepage Gravel content Too sandy	1.00 0.61 0.50

## Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
147: Whiteknob-----	25	Very limited Filtering capacity	1.00	Very limited Seepage Slope	1.00 0.08	Very limited Seepage Gravel content Too sandy	1.00 1.00 0.50
148: Mooretown-----	45	Very limited Flooding Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 1.00 0.50	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00	Somewhat limited Depth to saturated zone	0.68
Blackfoot-----	25	Very limited Depth to saturated zone Slow water movement	1.00 0.50	Very limited Depth to saturated zone Seepage	1.00 0.50	Somewhat limited Depth to saturated zone	0.68
Borah-----	20	Very limited Flooding Depth to saturated zone Filtering capacity Seepage, bottom layer	1.00 1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00	Very limited Seepage Gravel content Depth to saturated zone Too sandy	1.00 1.00 1.00 0.50
149: Drage, cool-----	85	Very limited Slow water movement Large stones content Slope	1.00 0.07 0.04	Very limited Slope Seepage	1.00 0.50	Somewhat limited Large stones content Slope Gravel content	0.38 0.04 0.02
150: Vitale-----	45	Very limited Slope Depth to bedrock Large stones content	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Large stones content Seepage	1.00 1.00 1.00 1.00 0.50	Very limited Slope Depth to bedrock Large stones	1.00 1.00 1.00
Blackspar-----	35	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.89	Very limited Depth to hard bedrock Slope Large stones content Seepage	1.00 1.00 1.00 1.00 0.50	Very limited Depth to bedrock Slope Large stones content Gravel content	1.00 1.00 0.89 0.15

# Source of Gravel, Sand, and Topsoil

(A rating of good source for gravel and sand requires a value of 0.75 or more for either the thickest or bottom layer. A rating of fair source for gravel and sand requires a value 0.08 to less than 0.75 for either the thickest or bottom layer. A rating of poor source for gravel and sand requires a value of less than 0.08 for both the thickest and bottom layers. A rating of good source for topsoil requires a value of more than 0.99 for all limiting features. A rating of fair source for topsoil requires a value of more than 0.00 for all limiting features. A rating of poor source for topsoil is assigned if any limiting feature has a value of 0.00.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1: Arco-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Carbonate content Wetness depth	0.97 0.99
2: Atom-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Sodium content Salinity Carbonate content	0.00 0.50 0.99
3: Atom-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Sodium content Salinity Carbonate content	0.00 0.50 0.99
4: Atom-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Sodium content Salinity Carbonate content	0.00 0.50 0.99
Splittop-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Carbonate content	0.84 0.99
5: Bealand-----	60	Fair Bottom layer Thickest layer	0.00 0.10	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Carbonate content Hard to reclaim (rock fragments)	0.00 0.00 0.00 0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5: Zeale-----	25	Fair Thickest layer Bottom layer	0.00 0.20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Carbonate content Hard to reclaim (rock fragments) Slope	0.00 0.00 0.00 0.00
6: Blackfoot-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Wetness depth Carbonate content	0.65 0.87
7: Bluedome-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Carbonate content Rock fragments Depth to bedrock Depth to cemented pan	0.00 0.00 0.93 0.94
8: Bluedome-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Carbonate content Depth to bedrock Depth to cemented pan Rock fragments	0.00 0.35 0.36 0.82
McCaleb-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Hard to reclaim (rock fragments) Carbonate content Rock fragments Sodium content	0.16 0.53 0.95 0.98
9: Bockston-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Carbonate content	0.91
10: Breitenbach-----	80	Fair Thickest layer Bottom layer	0.05 0.49	Fair Thickest layer Bottom layer	0.04 0.10	Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.00



## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
11: Breitenbach-----	65	Fair Thickest layer Bottom layer	0.00 0.49	Fair Thickest layer Bottom layer	0.00 0.08	Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.02
Stan-----	25	Fair Thickest layer Bottom layer	0.00 0.25	Fair Thickest layer Bottom layer	0.05 0.08	Poor Too sandy Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
12: Buist-----	90	Fair Thickest layer Bottom layer	0.07 0.34	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments)	0.00 0.00
13: Bunting-----	95	Fair Thickest layer Bottom layer	0.00 0.15	Poor Bottom layer Thickest layer	0.00 0.00	Not rated	
14: Coffee-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Sodium content Salinity Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.88 0.95
15: Coffee-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Sodium content Salinity Slope Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.37 0.88 0.95
Nargon-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Slope Carbonate content	0.03 0.37 0.96

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16: Coffee-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Sodium content Salinity Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.88 0.95
Nargon-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Carbonate content	0.03 0.96
Atom-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Sodium content Salinity Carbonate content	0.00 0.50 0.99
17: Cronks-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments Too clayey	0.00 0.00 0.00 0.02
Dacont-----	35	Fair Thickest layer Bottom layer	0.03 0.10	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00 0.97
18: Crooked Creek-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Too clayey	0.00
19: Cryoborolls-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments Carbonate content	0.00 0.00 0.00 0.95

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
19: Rubble land-----	20	Not rated		Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated		Not rated	
20: Darlington-----	60	Fair Thickest layer Bottom layer	0.10 0.55	Fair Thickest layer Bottom layer	0.00 0.08	Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.00
Lesbut-----	35	Fair Thickest layer Bottom layer	0.00 0.49	Fair Thickest layer Bottom layer	0.00 0.08	Poor Hard to reclaim (rock fragments) Rock fragments Too sandy	0.00 0.00 0.14
21: Denied access-----	100	Not rated		Not rated		Not rated	
22: Deuce-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock Carbonate content Rock fragments	0.00 0.78 0.95
Nargon-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Carbonate content	0.03 0.96
Lava flows-----	15	Not rated		Not rated		Not rated	
23: Deuce-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock Slope Rock fragments Carbonate content	0.00 0.00 0.34 0.85
Nargon-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Depth to bedrock Carbonate content Rock fragments	0.00 0.01 0.89 0.98

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23: Lava flows-----	20	Not rated		Not rated		Not rated	
24: Dickeypeak-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Carbonate content Hard to reclaim (rock fragments) Wetness depth	0.09 0.39 0.91
Bigrant-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Wetness depth Salinity Sodium content Carbonate content	0.00 0.50 0.60 0.67
25: Donkehill-----	85	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00
26: Dredge-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Good	
27: Elbow-----	80	Fair Thickest layer Bottom layer	0.00 0.49	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Depth to bedrock Depth to cemented pan	0.00 0.05 0.05
28: Fallert-----	80	Fair Thickest layer Bottom layer	0.22 0.35	Fair Thickest layer Bottom layer	0.04 0.10	Poor Hard to reclaim (rock fragments) Rock fragments Carbonate content Too sandy Salinity	0.00 0.00 0.00 0.02 0.88

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29: Fallert, dry-----	80	Fair Thickest layer Bottom layer	0.00 0.35	Fair Thickest layer Bottom layer	0.00 0.12	Poor Hard to reclaim (rock fragments) Rock fragments Carbonate content Too sandy Salinity	0.00 0.00 0.00 0.09 0.88
30: Fandow-----	80	Fair Thickest layer Bottom layer	0.04 0.40	Poor Bottom layer Thickest layer	0.03 0.03	Poor Rock fragments Depth to bedrock Depth to cemented pan Carbonate content	0.00 0.00 0.00 0.00
31: Fulwider, high precipitation----	40	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to cemented pan Depth to bedrock Slope Rock fragments Carbonate content	0.00 0.00 0.04 0.08 0.88
Fulwider, low precipitation----	30	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Depth to cemented pan Depth to bedrock Slope Carbonate content Sodium content Salinity	0.00 0.00 0.00 0.04 0.56 0.78 0.88
Fulwider-----	15	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Depth to cemented pan Depth to bedrock Slope Carbonate content Sodium content	0.00 0.00 0.00 0.04 0.54 0.78

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
32: Goosebury, high precipitation-----	90	Poor Bottom layer Thickest layer	0.00 0.05	Fair Thickest layer Bottom layer	0.03 0.11	Poor Hard to reclaim (rock fragments) Rock fragments Slope Carbonate content	0.00 0.00 0.16 0.68
33: Goosebury-----	80	Poor Bottom layer Thickest layer	0.00 0.05	Fair Thickest layer Bottom layer	0.03 0.11	Poor Hard to reclaim (rock fragments) Rock fragments Carbonate content	0.00 0.00 0.68
34: Goosebury, low precipitation-----	45	Fair Thickest layer Bottom layer	0.00 0.29	Poor Thickest layer Bottom layer	0.00 0.03	Poor Rock fragments Hard to reclaim (rock fragments) Slope Carbonate content	0.00 0.00 0.00 0.65
Goosebury, high precipitation-----	35	Fair Thickest layer Bottom layer	0.25 0.29	Fair Thickest layer Bottom layer	0.03 0.11	Poor Hard to reclaim (rock fragments) Rock fragments Slope Carbonate content	0.00 0.00 0.00 0.81
35: Hagenbarth-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Too clayey	0.00 0.90
Howcan-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35: Jonda-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00	Poor Hard to reclaim (rock fragments) Rock fragments Slope	0.00 0.00 0.00
36: Hal-----	60	Good Thickest layer Bottom layer	0.05 0.95	Fair Thickest layer Bottom layer	0.00 0.13	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Moonville-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope	0.00
37: Hondoho-----	85	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Slope Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.01 0.85
38: Howcan-----	50	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Hutchley-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Depth to bedrock Rock fragments Too clayey	0.00 0.00 0.00 0.81
Rock outcrop-----	10	Not rated		Not rated		Not rated	

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
39: Howcan-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Zeebar-----	25	Fair Thickest layer Bottom layer	0.07 0.37	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Hutchley-----	20	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Depth to bedrock Rock fragments Too clayey	0.00 0.00 0.00 0.81
40: Huddle-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Hard to reclaim (rock fragments) Rock fragments	0.68 0.95
Moonville-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Good	
41: Ike-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock Carbonate content Rock fragments Slope	0.00 0.00 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Jimbee-----	15	Fair Thickest layer Bottom layer	0.00 0.10	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Depth to bedrock Carbonate content Slope	0.00 0.00 0.00 0.00



## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42: Ike-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Depth to bedrock Carbonate content Rock fragments	0.00 0.00 0.00 0.00
Simeroi-----	30	Fair Thickest layer Bottom layer	0.12 0.28	Poor Thickest layer Bottom layer	0.00 0.04	Poor Slope Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00 0.00
Rock outcrop-----	10	Not rated		Not rated		Not rated	
43: Inel-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.03	Poor Slope Depth to bedrock Rock fragments Carbonate content	0.00 0.00 0.00 0.07
Matheson-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.02 0.02	Poor Slope Hard to reclaim (rock fragments) Rock fragments Carbonate content	0.00 0.24 0.98 0.99
Rock outcrop-----	25	Not rated		Not rated		Not rated	
44: Inel-----	55	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock Rock fragments Slope Carbonate content	0.00 0.00 0.00 0.01
Slide-----	15	Fair Thickest layer Bottom layer	0.20 0.45	Poor Thickest layer Bottom layer	0.00 0.02	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content Slope	0.00 0.00 0.00 0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
44: Rock outcrop-----	15	Not rated		Not rated		Not rated	
45: Jimbee-----	40	Fair Thickest layer Bottom layer	0.00 0.10	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Depth to bedrock Carbonate content Slope	0.00 0.00 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
Ike-----	15	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock Carbonate content Rock fragments Slope	0.00 0.00 0.00 0.00
46: Jimbee-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Depth to bedrock Carbonate content	0.00 0.00 0.00 0.00
Skibo-----	30	Fair Thickest layer Bottom layer	0.15 0.50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Carbonate content Hard to reclaim (rock fragments)	0.00 0.00 0.00 0.00
Ike-----	15	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Depth to bedrock Carbonate content Rock fragments	0.00 0.00 0.00 0.00
47: Justesen-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Slope	0.63

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47: Drage-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Hard to reclaim (rock fragments) Rock fragments Slope Too clayey	0.00 0.00 0.16 0.63
48: Ketchum-----	50	Good Thickest layer Bottom layer	0.38 0.77	Poor Thickest layer Bottom layer	0.00 0.05	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Povey-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00
49: Kimama-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Good	
50: Klug-----	90	Fair Thickest layer Bottom layer	0.00 0.31	Poor Bottom layer Thickest layer	0.00 0.00	Poor Hard to reclaim (rock fragments) Rock fragments Slope	0.00 0.00 0.84
51: Klug-----	60	Fair Thickest layer Bottom layer	0.00 0.31	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00
Parvis-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
52: Lag-----	90	Fair Thickest layer Bottom layer	0.00 0.45	Poor Thickest layer Bottom layer	0.00 0.03	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00
53: Lavacreek-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Dollarhide-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00
54: Lavacreek-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Dollarhide-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00
Grassycone-----	20	Poor Bottom layer Thickest layer	0.00 0.05	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00
55: Lavacreek-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
55: Vitale-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Depth to bedrock Too clayey	0.00 0.00 0.79 0.94
56: Lava flows-----	100	Not rated		Not rated		Not rated	
57: Lava flows-----	70	Not rated		Not rated		Not rated	
Cinderhurst-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Depth to bedrock Slope	0.00 0.00 0.96
58: Lava flows-----	60	Not rated		Not rated		Not rated	
Pingree-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock Rock fragments	0.00 0.59
59: Leatherman-----	45	Poor Thickest layer Bottom layer	0.00 0.05	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Depth to cemented pan Depth to bedrock Rock fragments Carbonate content Sodium content Salinity	0.00 0.00 0.00 0.00 0.22 0.88
Adek, dry-----	20	Fair Bottom layer Thickest layer	0.00 0.60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Hard to reclaim (rock fragments) Rock fragments Carbonate content Slope	0.00 0.00 0.00 0.16

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59: Adek-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments Carbonate content	0.00 0.00 0.00 0.00
60: Leatherman-----	45	Poor Thickest layer Bottom layer	0.00 0.05	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to cemented pan Depth to bedrock Rock fragments Carbonate content Sodium content Salinity	0.00 0.00 0.00 0.00 0.22 0.88
Bluedome-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Carbonate content Rock fragments Depth to bedrock Depth to cemented pan	0.00 0.00 0.03 0.03
61: Malm-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Rock fragments Carbonate content Depth to bedrock	0.88 0.99 0.99
Bondfarm-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock Rock fragments No carbonate limitation	0.00 0.41 0.99
Matheson-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.02 0.02	Fair Hard to reclaim (rock fragments) Rock fragments Carbonate content	0.24 0.98 0.99

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
62: Matheson-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.02 0.02	Fair Hard to reclaim (rock fragments) Slope Rock fragments Carbonate content	0.24 0.96 0.98 0.99
Grassy Butte-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.10 0.10	Poor Too sandy Slope Carbonate content	0.00 0.04 0.72
63: McCain-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock	0.35
Thornock-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock Sodium content Rock fragments	0.00 0.98 0.99
64: McCarey-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock	0.79
Beartrap-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Hard to reclaim (rock fragments) Carbonate content Rock fragments	0.68 0.90 0.96
65: McCarey-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Slope Depth to bedrock	0.16 0.79
Beartrap-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Slope Hard to reclaim (rock fragments) Carbonate content Rock fragments	0.16 0.68 0.90 0.96

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66: McCarey-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Slope	0.79 0.96
Beartrap-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Hard to reclaim (rock fragments) Carbonate content Slope Rock fragments	0.68 0.90 0.96 0.96
Rock outcrop-----	25	Not rated		Not rated		Not rated	
67: Mccarey-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Slope	0.35 0.96
Molyneux-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Good	
Lava flows-----	20	Not rated		Not rated		Not rated	
68: McCarey-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock	0.79
Splittop-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Carbonate content	0.54 0.99
Lava flows-----	15	Not rated		Not rated		Not rated	
69: McCarey-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Slope	0.79 0.96
Vickton-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Good	



## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69: Lava flows-----	15	Not rated		Not rated		Not rated	
70: McClenden-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Sodium content Hard to reclaim (rock fragments)	0.90 0.99
Thornock-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock Sodium content Rock fragments	0.00 0.98 0.99
71: Medicine-----	60	Fair Thickest layer Bottom layer	0.00 0.37	Fair Thickest layer Bottom layer	0.00 0.10	Poor Hard to reclaim (rock fragments) Rock fragments Too sandy	0.00 0.00 0.00
Whiteknob-----	25	Good Bottom layer Thickest layer	0.97 0.97	Fair Thickest layer Bottom layer	0.04 0.57	Poor Too sandy Hard to reclaim (rock fragments) Rock fragments Carbonate content	0.00 0.00 0.00 0.84
72: Menan-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Too clayey	0.55
73: Mogg-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Depth to bedrock Rock fragments	0.00 0.00 0.00
Shagel-----	30	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74: Mooretown-----	50	Fair Thickest layer Bottom layer	0.00 0.40	Fair Thickest layer Bottom layer	0.00 0.11	Poor Hard to reclaim (rock fragments) Wetness depth	0.00 0.76
Borah-----	40	Good Thickest layer Bottom layer	0.00 0.82	Fair Thickest layer Bottom layer	0.00 0.50	Poor Too sandy Hard to reclaim (rock fragments) Rock fragments Wetness depth	0.00 0.00 0.00 0.14
75: Mooretown, drained	50	Fair Thickest layer Bottom layer	0.00 0.40	Fair Thickest layer Bottom layer	0.00 0.11	Poor Hard to reclaim (rock fragments)	0.00
Borco-----	30	Good Thickest layer Bottom layer	0.75 0.88	Good Bottom layer Thickest layer	0.12 0.75	Poor Too sandy Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
76: Nargon-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Slope Carbonate content	0.03 0.63 0.96
Atom-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Sodium content Salinity Slope Carbonate content	0.00 0.00 0.63 0.98
Techicknot-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Good	

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
77: Nargon-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Slope Carbonate content Rock fragments	0.01 0.63 0.89 0.98
Deuce-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock Slope Carbonate content Rock fragments	0.00 0.63 0.78 0.95
Lava flows-----	10	Not rated		Not rated		Not rated	
78: Nitchly-----	75	Fair Bottom layer Thickest layer	0.12 0.12	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments Carbonate content Too clayey	0.00 0.00 0.00 0.00 0.57
79: Nurkey-----	50	Fair Thickest layer Bottom layer	0.03 0.15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Hard to reclaim (rock fragments) Rock fragments Slope Carbonate content	0.00 0.00 0.00 0.98
Dacont-----	30	Fair Thickest layer Bottom layer	0.05 0.10	Poor Bottom layer Thickest layer	0.01 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Slope Carbonate content	0.00 0.00 0.00 0.94

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
80: Nurkey-----	50	Fair Thickest layer Bottom layer	0.03 0.15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00 0.98
Dacont-----	35	Fair Thickest layer Bottom layer	0.05 0.10	Poor Bottom layer Thickest layer	0.01 0.04	Poor Slope Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00 0.94
81: Nurkey-----	80	Fair Thickest layer Bottom layer	0.12 0.12	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Slope	0.00 0.00 0.00
Nurkey, low precipitation----	20	Fair Thickest layer Bottom layer	0.12 0.12	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Slope	0.00 0.00 0.00
82: Calclids-----	50	Fair Thickest layer Bottom layer	0.17 0.17	Poor Thickest layer Bottom layer	0.00 0.06	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Rubble land-----	20	Not rated		Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated		Not rated	

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
83: Packmo-----	50	Fair Thickest layer Bottom layer	0.15 0.23	Fair Thickest layer Bottom layer	0.03 0.12	Poor Hard to reclaim (rock fragments) Rock fragments Slope	0.00 0.00 0.84
Snowslide-----	40	Fair Thickest layer Bottom layer	0.05 0.40	Poor Thickest layer Bottom layer	0.00 0.02	Poor Rock fragments Hard to reclaim (rock fragments) Salinity Sodium content Carbonate content Slope	0.00 0.00 0.50 0.60 0.76 0.84
84: Paint-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to cemented pan Depth to bedrock Carbonate content Rock fragments	0.00 0.00 0.00 0.00
Fallert-----	40	Fair Thickest layer Bottom layer	0.22 0.35	Fair Thickest layer Bottom layer	0.04 0.12	Poor Hard to reclaim (rock fragments) Rock fragments Carbonate content Salinity	0.00 0.00 0.00 0.88
85: Paint-----	65	Fair Thickest layer Bottom layer	0.00 0.18	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to cemented pan Depth to bedrock Carbonate content Rock fragments	0.00 0.00 0.00 0.00
Whitecloud-----	20	Fair Thickest layer Bottom layer	0.00 0.40	Fair Thickest layer Bottom layer	0.00 0.10	Poor Carbonate content Too sandy Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00 0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
86: Pancheri-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Sodium content Salinity Carbonate content	0.78 0.88 0.97
87: Pancheri-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Sodium content Salinity Carbonate content	0.78 0.88 0.97
Polatis-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Carbonate content Depth to bedrock	0.85 0.99
88: Playas-----	100	Not rated		Not rated		Not rated	
89: Polatis-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Carbonate content	0.84 0.88
90: Portino-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Carbonate content Sodium content	0.46 0.88 0.98
Thornock-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock Sodium content Rock fragments	0.00 0.98 0.99
91: Riverlost-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.03	Poor Slope Too clayey Rock fragments Hard to reclaim (rock fragments)	0.00 0.39 0.90 0.92

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
91: Frymire-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Too clayey Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00 0.00
92: Riverlost-----	60	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.03	Poor Slope Too clayey Rock fragments Hard to reclaim (rock fragments)	0.00 0.39 0.90 0.92
Grouseville-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Too clayey	0.00 0.93
93: Riverlost-----	55	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.03	Poor Slope Too clayey Rock fragments Hard to reclaim (rock fragments)	0.00 0.39 0.90 0.92
Soen-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope	0.00
94: Rubble land-----	40	Not rated		Not rated		Not rated	
Milligan-----	35	Fair Bottom layer Thickest layer	0.00 0.23	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.99

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
95: Sanfelipe-----	85	Fair Thickest layer Bottom layer	0.20 0.31	Poor Thickest layer Bottom layer	0.00 0.01	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00
96: Sanfelipe-----	90	Fair Thickest layer Bottom layer	0.20 0.31	Poor Thickest layer Bottom layer	0.00 0.01	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content Slope	0.00 0.00 0.00 0.84
97: Sanfelipe-----	65	Fair Thickest layer Bottom layer	0.00 0.15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Hard to reclaim (rock fragments) Carbonate content Rock fragments	0.00 0.02 0.41
McCaleb-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Carbonate content Sodium content Rock fragments Salinity	0.00 0.22 0.82 0.88
98: Sanfelipe-----	70	Fair Thickest layer Bottom layer	0.20 0.43	Poor Thickest layer Bottom layer	0.00 0.01	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00
Simeroi-----	20	Fair Thickest layer Bottom layer	0.12 0.28	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00



## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
99: Simeroi-----	85	Fair Thickest layer Bottom layer	0.12 0.28	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00
100: Simeroi-----	75	Fair Thickest layer Bottom layer	0.12 0.28	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content Slope	0.00 0.00 0.00 0.96
101: Simeroi-----	85	Fair Thickest layer Bottom layer	0.12 0.28	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content Slope	0.00 0.00 0.00 0.84
102: Simeroi, cool-----	85	Fair Thickest layer Bottom layer	0.12 0.28	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content Slope	0.00 0.00 0.00 0.04
103: Simeroi, dry-----	80	Fair Thickest layer Bottom layer	0.12 0.28	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content Slope	0.00 0.00 0.00 0.00
104: Simeroi-----	60	Fair Thickest layer Bottom layer	0.12 0.28	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
104: Paint-----	25	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to cemented pan Depth to bedrock Carbonate content Rock fragments	0.00 0.00 0.00 0.00
105: Simeroi, dry-----	50	Fair Thickest layer Bottom layer	0.12 0.28	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content Slope	0.00 0.00 0.00 0.00
Simeroi-----	30	Fair Thickest layer Bottom layer	0.12 0.28	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content Slope	0.00 0.00 0.00 0.00
106: Simeroi-----	60	Fair Thickest layer Bottom layer	0.12 0.28	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00
Sparmo-----	25	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Hard to reclaim (rock fragments) Carbonate content Sodium content	0.03 0.88 0.98
107: Simeroi-----	40	Fair Thickest layer Bottom layer	0.12 0.28	Poor Thickest layer Bottom layer	0.00 0.04	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
107: Slide-----	35	Fair Thickest layer Bottom layer	0.20 0.45	Poor Thickest layer Bottom layer	0.00 0.02	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00
McCaleb-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Carbonate content Hard to reclaim (rock fragments) Sodium content Rock fragments Salinity	0.00 0.16 0.22 0.88 0.88
108: Simeroi-----	40	Fair Thickest layer Bottom layer	0.12 0.28	Poor Thickest layer Bottom layer	0.00 0.04	Poor Slope Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00 0.00
Bealand-----	40	Fair Bottom layer Thickest layer	0.00 0.10	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Carbonate content Hard to reclaim (rock fragments)	0.00 0.00 0.00 0.00
109: Slide-----	80	Fair Bottom layer Thickest layer	0.43 0.55	Fair Thickest layer Bottom layer	0.04 0.10	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00
110: Snowslide-----	80	Fair Thickest layer Bottom layer	0.00 0.07	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Salinity Hard to reclaim (rock fragments) Sodium content Carbonate content	0.00 0.00 0.00 0.60 0.80

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
111: Snowslide-----	85	Fair Thickest layer Bottom layer	0.05 0.40	Poor Thickest layer Bottom layer	0.00 0.02	Poor Rock fragments Salinity Hard to reclaim (rock fragments) Slope Sodium content Carbonate content	0.00 0.00 0.00 0.16 0.60 0.73
112: Snowslide-----	80	Fair Thickest layer Bottom layer	0.00 0.40	Poor Thickest layer Bottom layer	0.00 0.02	Poor Rock fragments Salinity Hard to reclaim (rock fragments) Sodium content Carbonate content	0.00 0.00 0.00 0.60 0.78
Zer-----	15	Fair Thickest layer Bottom layer	0.26 0.40	Fair Thickest layer Bottom layer	0.02 0.08	Poor Hard to reclaim (rock fragments) Rock fragments Carbonate content	0.00 0.00 0.64
113: Snowslide-----	35	Fair Thickest layer Bottom layer	0.05 0.07	Poor Thickest layer Bottom layer	0.00 0.02	Poor Rock fragments Salinity Hard to reclaim (rock fragments) Slope Sodium content Carbonate content	0.00 0.00 0.00 0.00 0.60 0.73
Zer-----	30	Fair Thickest layer Bottom layer	0.26 0.40	Fair Thickest layer Bottom layer	0.02 0.08	Poor Hard to reclaim (rock fragments) Rock fragments Slope Carbonate content	0.00 0.00 0.00 0.64

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113: Snowslide, low precipitation-----	20	Fair Thickest layer Bottom layer	0.00 0.40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Salinity Hard to reclaim (rock fragments) Slope Sodium content Carbonate content	0.00 0.00 0.00 0.00 0.60 0.80
114: Soen-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Good	
115: Soen-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Good	
Justesen-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Good	
116: Sparmo-----	75	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Hard to reclaim (rock fragments) Carbonate content Sodium content	0.03 0.88 0.98
117: Sparmo-----	50	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Hard to reclaim (rock fragments) Carbonate content Sodium content	0.03 0.88 0.98
Bluedome-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Carbonate content Depth to bedrock Depth to cemented pan Rock fragments	0.00 0.05 0.05 0.82

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
118: Sparmo-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Hard to reclaim (rock fragments) Carbonate content Sodium content	0.03 0.88 0.98
Zer-----	45	Fair Bottom layer Thickest layer	0.00 0.12	Fair Thickest layer Bottom layer	0.02 0.08	Poor Rock fragments Hard to reclaim (rock fragments) Too sandy Carbonate content	0.00 0.00 0.30 0.73
119: Splittop-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock No carbonate limitation	0.71 0.99
Atomic-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Hard to reclaim (rock fragments) Carbonate content	0.32 0.99
120: Splittop-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock No carbonate limitation	0.71 0.99
Coffee-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Sodium content Salinity Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.88 0.95
121: Stan-----	95	Fair Thickest layer Bottom layer	0.00 0.35	Fair Thickest layer Bottom layer	0.00 0.10	Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
122: Stan-----	55	Fair Thickest layer Bottom layer	0.00 0.35	Fair Thickest layer Bottom layer	0.00 0.10	Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.00
Breitenbach-----	30	Fair Thickest layer Bottom layer	0.07 0.49	Fair Thickest layer Bottom layer	0.04 0.08	Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.00
123: Stan, loamy fine sand surface-----	70	Fair Thickest layer Bottom layer	0.00 0.35	Fair Thickest layer Bottom layer	0.00 0.10	Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.18
Stan-----	25	Fair Thickest layer Bottom layer	0.00 0.35	Fair Thickest layer Bottom layer	0.00 0.10	Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.00
124: Starlite-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Carbonate content	0.04
125: Techick-----	50	Fair Thickest layer Bottom layer	0.00 0.43	Good Thickest layer Bottom layer	0.00 0.77	Poor Hard to reclaim (rock fragments)	0.00
Soelberg-----	45	Fair Thickest layer Bottom layer	0.00 0.70	Good Thickest layer Bottom layer	0.00 0.74	Poor Hard to reclaim (rock fragments) Carbonate content	0.00 0.99
126: Techick-----	40	Fair Thickest layer Bottom layer	0.00 0.43	Good Thickest layer Bottom layer	0.00 0.77	Poor Hard to reclaim (rock fragments)	0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
126: Soelberg-----	35	Fair Thickest layer Bottom layer	0.00 0.68	Good Thickest layer Bottom layer	0.00 0.86	Poor Hard to reclaim (rock fragments)	0.00
Lesbut-----	15	Fair Thickest layer Bottom layer	0.00 0.49	Fair Thickest layer Bottom layer	0.00 0.08	Poor Hard to reclaim (rock fragments) Rock fragments Too sandy	0.00 0.00 0.14
127: Techicknot-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Good	
Atom-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Sodium content Salinity Carbonate content	0.00 0.00 0.98
Nargon-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Carbonate content	0.03 0.95
128: Tenno-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock	0.00
Splittop-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Carbonate content	0.84 0.99
Lava flows-----	15	Not rated		Not rated		Not rated	
129: Tenno-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock	0.00
Splittop-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Carbonate content	0.54 0.99



## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129: McCarey-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock	0.01
130: Thornock-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock Sodium content Rock fragments	0.00 0.98 0.99
Portino-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Carbonate content Sodium content	0.46 0.88 0.98
131: Thornock-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Depth to bedrock Slope Sodium content Rock fragments	0.00 0.84 0.98 0.99
Portino-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Slope Carbonate content Sodium content	0.46 0.84 0.88 0.98
132: Thosand-----	50	Good Thickest layer Bottom layer	0.00 0.85	Fair Thickest layer Bottom layer	0.00 0.14	Poor Wetness depth Carbonate content Hard to reclaim (rock fragments)	0.00 0.25 0.46
Sancrane-----	25	Fair Thickest layer Bottom layer	0.00 0.68	Fair Thickest layer Bottom layer	0.00 0.10	Poor Wetness depth Hard to reclaim (rock fragments) Salinity Rock fragments Carbonate content	0.00 0.00 0.50 0.59 0.95

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
133: Truesdale-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Depth to cemented pan	0.01 0.01
Minidoka-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Fair Depth to bedrock Depth to cemented pan Carbonate content	0.46 0.46 0.85
134: Vitale-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Slope Depth to bedrock Too clayey	0.00 0.00 0.79 0.94
Blackspar-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Depth to bedrock Slope	0.00 0.00 0.00
135: Whitecloud-----	75	Fair Thickest layer Bottom layer	0.00 0.35	Fair Thickest layer Bottom layer	0.00 0.10	Poor Carbonate content Too sandy Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00 0.00
136: Whitecloud-----	55	Fair Thickest layer Bottom layer	0.00 0.35	Fair Thickest layer Bottom layer	0.00 0.10	Poor Carbonate content Too sandy Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00 0.00
Sanfelipe-----	25	Fair Thickest layer Bottom layer	0.20 0.31	Poor Thickest layer Bottom layer	0.00 0.01	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
137: Zeale-----	70	Fair Thickest layer Bottom layer	0.00 0.20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Carbonate content Hard to reclaim (rock fragments) Slope	0.00 0.00 0.00 0.63
Zeale, high precipitation----	25	Fair Thickest layer Bottom layer	0.00 0.20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Carbonate content Hard to reclaim (rock fragments) Slope	0.00 0.00 0.00 0.63
138: Zeale-----	70	Fair Thickest layer Bottom layer	0.00 0.20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Carbonate content Hard to reclaim (rock fragments)	0.00 0.00 0.00 0.00
Zeale, high precipitation----	25	Fair Thickest layer Bottom layer	0.00 0.20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Carbonate content Hard to reclaim (rock fragments)	0.00 0.00 0.00 0.00
139: Zeale-----	35	Fair Thickest layer Bottom layer	0.00 0.20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00 0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
139: Coalkiln-----	25	Fair Bottom layer Thickest layer	0.06 0.10	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00 0.13
Jimbee-----	25	Fair Thickest layer Bottom layer	0.10 0.10	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Depth to bedrock Carbonate content	0.00 0.00 0.00 0.00
140: Zeebar, cool-----	55	Fair Thickest layer Bottom layer	0.07 0.37	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00
Zeebar-----	30	Fair Thickest layer Bottom layer	0.07 0.37	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
141: Zeebar-----	40	Fair Thickest layer Bottom layer	0.00 0.37	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Parvis-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00
Howcan-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
142: Zer-----	85	Fair Thickest layer Bottom layer	0.00 0.37	Poor Thickest layer Bottom layer	0.00 0.02	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.76
143: Zer-----	85	Fair Thickest layer Bottom layer	0.00 0.43	Fair Thickest layer Bottom layer	0.00 0.12	Poor Hard to reclaim (rock fragments) Rock fragments Carbonate content Too sandy	0.00 0.00 0.58 0.68
144: Zer-----	95	Fair Bottom layer Thickest layer	0.40 0.45	Fair Thickest layer Bottom layer	0.00 0.08	Poor Rock fragments Hard to reclaim (rock fragments) Slope Carbonate content	0.00 0.00 0.37 0.58
145: Zer-----	80	Fair Thickest layer Bottom layer	0.00 0.40	Fair Thickest layer Bottom layer	0.00 0.08	Poor Slope Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00 0.62
146: Zer-----	45	Fair Thickest layer Bottom layer	0.00 0.37	Poor Thickest layer Bottom layer	0.00 0.02	Poor Rock fragments Hard to reclaim (rock fragments) Carbonate content Slope	0.00 0.00 0.47 0.84

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
146: Snowslide-----	40	Fair Thickest layer Bottom layer	0.05 0.07	Poor Bottom layer Thickest layer	0.00 0.00	Poor Rock fragments Hard to reclaim (rock fragments) Salinity Sodium content Carbonate content Slope	0.00 0.00 0.50 0.60 0.82 0.84
147: Zer-----	65	Fair Bottom layer Thickest layer	0.00 0.12	Fair Thickest layer Bottom layer	0.02 0.08	Poor Hard to reclaim (rock fragments) Rock fragments Carbonate content	0.00 0.00 0.46
Whiteknob-----	25	Good Thickest layer Bottom layer	0.00 0.97	Fair Thickest layer Bottom layer	0.00 0.13	Poor Hard to reclaim (rock fragments) Rock fragments Too sandy Carbonate content	0.00 0.00 0.02 0.82
148: Mooretown-----	45	Fair Thickest layer Bottom layer	0.00 0.40	Fair Thickest layer Bottom layer	0.00 0.11	Poor Hard to reclaim (rock fragments) Wetness depth	0.00 0.76
Blackfoot-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00	Fair Wetness depth	0.76
Borah-----	20	Good Thickest layer Bottom layer	0.00 0.82	Fair Thickest layer Bottom layer	0.00 0.10	Poor Hard to reclaim (rock fragments) Rock fragments Wetness depth Too sandy	0.00 0.00 0.14 0.19

## Source of Gravel, Sand, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
149: Drage, cool-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00	Poor Hard to reclaim (rock fragments) Rock fragments Too clayey Slope	0.00 0.00 0.69 0.96
150: Vitale-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Rock fragments Depth to bedrock Too clayey	0.00 0.00 0.05 0.90
Blackspar-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00	Poor Slope Depth to bedrock Rock fragments	0.00 0.00 0.00

## Source of Reclamation Material and Roadfill

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1: Arco-----	85	Fair Organic matter content low Carbonate content Water erosion	 0.12 0.80 0.90	Poor Low strength Shrink-swell Wetness depth	 0.00 0.87 0.99
2: Atom-----	80	Poor Sodium content Organic matter content low Salinity Water erosion Carbonate content	 0.00 0.12 0.50 0.90 0.92	Poor Low strength Shrink-swell	 0.00 0.87
3: Atom-----	85	Poor Sodium content Organic matter content low Salinity Water erosion Carbonate content	 0.00 0.12 0.50 0.90 0.92	Poor Low strength Shrink-swell	 0.00 0.87
4: Atom-----	50	Poor Sodium content Organic matter content low Salinity Water erosion Carbonate content	 0.00 0.12 0.50 0.90 0.92	Poor Low strength Shrink-swell	 0.00 0.87
Splittop-----	40	Fair Depth to bedrock Organic matter content low Droughty Carbonate content Water erosion	 0.84 0.88 0.89 0.97 0.99	Poor Depth to bedrock Low strength	 0.00 0.00
5: Bealand-----	60	Poor Carbonate content Organic matter content low	 0.00 0.12	Poor Slope	 0.00
Zeale-----	25	Poor Carbonate content Droughty	 0.00 0.68	Poor Slope	 0.00



Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
6: Blackfoot-----	85	Fair Carbonate content Water erosion	0.46 0.90	Fair Low strength Wetness depth	0.22 0.65
7: Bluedome-----	80	Poor Carbonate content Too alkaline Organic matter content low Depth to bedrock Depth to cemented pan Droughty	0.00 0.00 0.12 0.93 0.94 0.95	Poor Depth to cemented pan Depth to bedrock	0.00 0.00
8: Bluedome-----	50	Poor Carbonate content Too alkaline Organic matter content low Depth to bedrock Depth to cemented pan Droughty	0.00 0.00 0.12 0.35 0.36 0.49	Poor Depth to cemented pan Depth to bedrock	0.00 0.00
McCaleb-----	30	Poor Carbonate content Organic matter content low Sodium content Water erosion	0.00 0.12 0.97 0.99	Good	
9: Bockston-----	80	Fair Organic matter content low Carbonate content Water erosion	0.12 0.68 0.99	Good	
10: Breitenbach-----	80	Fair Droughty Organic matter content low	0.73 0.88	Good	
11: Breitenbach-----	65	Fair Organic matter content low Droughty	0.12 0.78	Good	
Stan-----	25	Poor Too sandy Wind erosion Organic matter content low Droughty Carbonate content	0.00 0.00 0.12 0.36 0.92	Good	

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
12: Buist-----	90	Fair Organic matter content low Carbonate content Droughty	0.12 0.46 0.71	Good	
13: Bunting-----	95	Not rated		Good	
14: Coffee-----	80	Poor Sodium content Organic matter content low Salinity Carbonate content Droughty Water erosion	0.00 0.12 0.50 0.80 0.90 0.90	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.39 0.87
15: Coffee-----	45	Poor Sodium content Organic matter content low Salinity Carbonate content Droughty Water erosion	0.00 0.12 0.50 0.80 0.90 0.90	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.39 0.87
Nargon-----	30	Fair Depth to bedrock Droughty Carbonate content Organic matter content low Water erosion	0.03 0.38 0.80 0.88 0.99	Poor Depth to bedrock	0.00
16: Coffee-----	30	Poor Sodium content Organic matter content low Salinity Carbonate content Droughty Water erosion	0.00 0.12 0.50 0.80 0.90 0.90	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.39 0.87
Nargon-----	30	Fair Depth to bedrock Droughty Carbonate content Organic matter content low Water erosion	0.03 0.38 0.80 0.88 0.99	Poor Depth to bedrock	0.00

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
16: Atom-----	15	Poor Sodium content Organic matter content low Salinity Water erosion Carbonate content	0.00 0.12  0.50 0.90 0.92	Poor Low strength Shrink-swell	0.00 0.87
17: Cronks-----	40	Fair Too clayey Organic matter content low Cobble content Carbonate content	0.02 0.12  0.76 0.92	Poor Slope Cobble content Low strength Shrink-swell	0.00 0.05 0.22 0.76
Dacont-----	35	Fair Organic matter content low Carbonate content Droughty	0.12  0.68 0.96	Poor Slope	0.00
18: Crooked Creek-----	85	Poor Too clayey Water erosion Organic matter content low	0.00 0.68 0.88	Poor Low strength Shrink-swell	0.00 0.57
19: Cryoborolls-----	50	Fair Cobble content Droughty Carbonate content	0.19 0.38 0.92	Poor Slope Cobble content	0.00 0.00
Rubble land-----	20	Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated	
20: Darlington-----	60	Fair Droughty Organic matter content low	0.59 0.88	Good	
Lesbut-----	35	Fair Droughty Organic matter content low Too sandy	0.10 0.12 0.14	Good	
21: Denied access-----	100	Not rated		Not rated	

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
22: Deuce-----	45	Poor Depth to bedrock Droughty Carbonate content Organic matter content low	0.00 0.00 0.46 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.93
Nargon-----	20	Fair Depth to bedrock Droughty Carbonate content Organic matter content low Water erosion	0.03 0.35 0.80 0.88 0.99	Poor Depth to bedrock	0.00
Lava flows-----	15	Not rated		Not rated	
23: Deuce-----	35	Poor Depth to bedrock Droughty Carbonate content Organic matter content low Stone content	0.00 0.00 0.46 0.88 0.99	Poor Low strength Depth to bedrock Shrink-swell Slope	0.00 0.00 0.96 0.98
Nargon-----	20	Fair Depth to bedrock Organic matter content low Droughty Stone content Carbonate content Water erosion	0.01 0.12 0.15 0.70 0.80 0.99	Poor Depth to bedrock Stone content Slope	0.00 0.98 0.98
Lava flows-----	20	Not rated		Not rated	
24: Dickeypeak-----	50	Poor Sodium content Carbonate content Organic matter content low Salinity Water erosion	0.00 0.08 0.12 0.50 0.90	Fair Low strength Wetness depth	0.78 0.91
Bigrant-----	40	Fair Organic matter content low Carbonate content Sodium content Water erosion	0.12 0.46 0.60 0.99	Poor Wetness depth Low strength Shrink-swell	0.00 0.00 0.97
25: Donkehill-----	85	Poor Droughty Depth to bedrock	0.00 0.00	Poor Depth to bedrock Slope Shrink-swell	0.00 0.00 0.87

Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
26: Dredge-----	80	Good		Fair Low strength Shrink-swell	0.78 0.87
27: Elbow-----	80	Poor Droughty Too alkaline Depth to bedrock Depth to cemented pan Carbonate content	0.00 0.00 0.05 0.05 0.97	Poor Depth to bedrock Depth to cemented pan	0.00 0.00
28: Fallert-----	80	Poor Carbonate content Droughty Too sandy Organic matter content low	0.00 0.00 0.02 0.12	Good	
29: Fallert, dry-----	80	Poor Carbonate content Droughty Too sandy Organic matter content low	0.00 0.00 0.09 0.12	Good	
30: Fandow-----	80	Poor Droughty Carbonate content Depth to cemented pan Depth to bedrock Too alkaline Organic matter content low	0.00 0.00 0.00 0.00 0.00 0.00 0.88	Poor Depth to bedrock Depth to cemented pan	0.00 0.00
31: Fulwider, high precipitation-----	40	Poor Droughty Depth to cemented pan Depth to bedrock Carbonate content Sodium content	0.00 0.00 0.00 0.16 0.78	Poor Depth to cemented pan Depth to bedrock Cobble content	0.00 0.00 0.73

Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31: Fulwider, low precipitation-----	30	Poor Droughty Depth to cemented pan Depth to bedrock Carbonate content Sodium content Organic matter content low	0.00 0.00 0.00 0.16 0.78 0.88	Poor Depth to cemented pan Depth to bedrock Cobble content	0.00 0.00 0.00 0.67
Fulwider-----	15	Poor Droughty Depth to cemented pan Depth to bedrock Carbonate content Sodium content Organic matter content low	0.00 0.00 0.00 0.08 0.78 0.88	Poor Depth to bedrock Depth to cemented pan Cobble content	0.00 0.00 0.00 0.68
32: Goosebury, high precipitation-----	90	Fair Droughty Organic matter content low Carbonate content	0.11 0.12 0.46	Good	
33: Goosebury-----	80	Fair Droughty Organic matter content low Carbonate content	0.11 0.12 0.46	Good	
34: Goosebury, low precipitation-----	45	Fair Organic matter content low Droughty Carbonate content	0.12 0.32 0.46	Fair Slope Cobble content	0.08 0.89
Goosebury, high precipitation-----	35	Fair Organic matter content low Carbonate content Droughty	0.12 0.46 0.48	Fair Slope	0.08
35: Hagenbarth-----	30	Fair Water erosion Too clayey	0.68 0.95	Poor Low strength Slope Shrink-swell	0.00 0.00 0.87

Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
35: Howcan-----	25	Poor Stone content Droughty Cobble content	0.00 0.37 0.75	Poor Stone content Slope Cobble content Depth to bedrock	0.00 0.00 0.04 0.87
Jonda-----	20	Poor Cobble content Organic matter content low Droughty	0.00 0.12 0.13	Poor Cobble content Slope	0.00 0.00
36: Hal-----	60	Fair Organic matter content low	0.12	Poor Slope	0.00
Moonville-----	25	Fair Organic matter content low Water erosion Carbonate content	0.88 0.90 0.92	Poor Low strength Slope	0.00 0.08
37: Hondoho-----	85	Fair Stone content Carbonate content Organic matter content low	0.34 0.46 0.50	Fair Stone content Slope Cobble content	0.55 0.92 0.99
38: Howcan-----	50	Poor Stone content Droughty Cobble content	0.00 0.37 0.75	Poor Slope Stone content Cobble content Depth to bedrock	0.00 0.00 0.04 0.87
Hutchley-----	35	Poor Droughty Depth to bedrock Too clayey Cobble content	0.00 0.00 0.98 0.99	Poor Slope Depth to bedrock Shrink-swell	0.00 0.00 0.87
Rock outcrop-----	10	Not rated		Not rated	
39: Howcan-----	35	Poor Stone content Droughty Cobble content	0.00 0.37 0.75	Poor Stone content Slope Cobble content Depth to bedrock	0.00 0.00 0.04 0.87
Zeebar-----	25	Fair Droughty Organic matter content low Stone content	0.77 0.88 0.99	Poor Slope	0.00

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
39: Hutchley-----	20	Poor Droughty Depth to bedrock Too clayey Cobble content	 0.00 0.00 0.98 0.99	Poor Slope Depth to bedrock Shrink-swell	 0.00 0.00 0.87
40: Huddle-----	65	Fair Organic matter content low Carbonate content Water erosion	 0.12 0.20 0.99	Fair Depth to bedrock	 0.58
Moonville-----	20	Fair Organic matter content low Water erosion Carbonate content	 0.88 0.90 0.92	Poor Low strength	 0.00
41: Ike-----	40	Poor Droughty Carbonate content Depth to bedrock Organic matter content low Cobble content	 0.00 0.00 0.00 0.50 0.65	Poor Depth to bedrock Slope Cobble content	 0.00 0.00 0.68
Rock outcrop-----	20	Not rated		Not rated	
Jimbee-----	15	Poor Droughty Carbonate content Depth to bedrock Stone content	 0.00 0.00 0.00 0.92	Poor Slope Depth to bedrock	 0.00 0.00
42: Ike-----	45	Poor Droughty Carbonate content Depth to bedrock Organic matter content low Cobble content	 0.00 0.00 0.00 0.50 0.65	Poor Slope Depth to bedrock Cobble content	 0.00 0.00 0.68
Simeroi-----	30	Poor Carbonate content Droughty Organic matter content low	 0.00 0.50 0.88	Poor Slope	 0.00
Rock outcrop-----	10	Not rated		Not rated	



## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
43: Inel-----	35	Poor Droughty Carbonate content Depth to bedrock Organic matter content low Stone content	0.00 0.00 0.00 0.12 0.85	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.99
Matheson-----	30	Fair Organic matter content low Droughty Carbonate content	0.88 0.89 0.92	Fair Depth to bedrock Slope	0.16 0.82
Rock outcrop-----	25	Not rated		Not rated	
44: Inel-----	55	Poor Droughty Carbonate content Depth to bedrock Organic matter content low Stone content	0.00 0.00 0.00 0.12 0.93	Poor Slope Depth to bedrock	0.00 0.00
Slide-----	15	Poor Carbonate content Organic matter content low Droughty	0.00 0.12 0.33	Poor Slope	0.00
Rock outcrop-----	15	Not rated		Not rated	
45: Jimbee-----	40	Poor Droughty Carbonate content Depth to bedrock Stone content	0.00 0.00 0.00 0.92	Poor Depth to bedrock Slope	0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
Ike-----	15	Poor Droughty Carbonate content Depth to bedrock Organic matter content low Cobble content	0.00 0.00 0.00 0.50 0.65	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.68
46: Jimbee-----	40	Poor Droughty Carbonate content Depth to bedrock Stone content	0.00 0.00 0.00 0.00	Poor Slope Depth to bedrock Stone content	0.00 0.00 0.65

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
46: Skibo-----	30	Poor Carbonate content Stone content Organic matter content low Droughty	0.00 0.86 0.88 0.93	Poor Slope Stone content	0.00 0.88
Ike-----	15	Poor Droughty Carbonate content Depth to bedrock Organic matter content low Cobble content	0.00 0.00 0.00 0.50 0.65	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.68
47: Justesen-----	45	Fair Organic matter content low Carbonate content Water erosion	0.12 0.68 0.99	Good	
Drage-----	40	Fair Organic matter content low Too clayey Carbonate content Cobble content Droughty Stone content	0.12 0.88 0.92 0.94 0.95 0.98	Fair Cobble content Stone content	0.61 0.98
48: Ketchum-----	50	Fair Too acid Organic matter content low	0.32 0.88	Poor Slope	0.00
Povey-----	30	Poor Droughty Cobble content Stone content	0.00 0.00 0.90	Poor Slope Cobble content Depth to bedrock Stone content	0.00 0.00 0.92 0.95
49: Kimama-----	90	Fair Organic matter content low Water erosion	0.50 0.90	Poor Low strength Shrink-swell	0.00 0.87
50: Klug-----	90	Fair Droughty Organic matter content low	0.74 0.88	Good	

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
51: Klug-----	60	Fair Droughty Organic matter content low	0.74 0.88	Poor Slope	0.00
Parvis-----	20	Poor Stone content Droughty	0.00 0.94	Poor Slope Stone content Shrink-swell	0.00 0.00 0.99
52: Lag-----	90	Fair Stone content Organic matter content low Droughty Too acid	0.07 0.12 0.34 0.50	Poor Slope Stone content	0.00 0.37
53: Lavacreek-----	65	Fair Cobble content Organic matter content low	0.09 0.88	Poor Slope Cobble content	0.00 0.00
Dollarhide-----	25	Poor Droughty Depth to bedrock	0.00 0.00	Poor Slope Depth to bedrock	0.00 0.00
54: Lavacreek-----	45	Fair Cobble content Organic matter content low	0.09 0.88	Poor Cobble content Slope	0.00 0.00
Dollarhide-----	20	Poor Droughty Depth to bedrock	0.00 0.00	Poor Depth to bedrock Slope	0.00 0.00
Grassycone-----	20	Fair Too acid	0.32	Poor Slope	0.00
55: Lavacreek-----	45	Fair Cobble content Organic matter content low	0.09 0.88	Poor Slope Cobble content	0.00 0.00
Vitale-----	35	Poor Droughty Cobble content Depth to bedrock Too clayey	0.00 0.02 0.79 0.99	Poor Slope Depth to bedrock Cobble content Shrink-swell	0.00 0.00 0.00 0.99
56: Lava flows-----	100	Not rated		Not rated	

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
57: Lava flows-----	70	Not rated		Not rated	
Cinderhurst-----	20	Poor Droughty Depth to bedrock Cobble content	0.00 0.00 0.00	Poor Depth to bedrock Cobble content	0.00 0.58
58: Lava flows-----	60	Not rated		Not rated	
Pingree-----	35	Poor Droughty Depth to bedrock Stone content Organic matter content low	0.00 0.00 0.86 0.88	Poor Depth to bedrock	0.00
59: Leatherman-----	45	Poor Droughty Carbonate content Depth to cemented pan Depth to bedrock Sodium content	0.00 0.00 0.00 0.00 0.00 0.22	Poor Depth to bedrock Depth to cemented pan Slope	0.00 0.00 0.50
Adek, dry-----	20	Poor Carbonate content Droughty Cobble content	0.00 0.62 0.99	Good	
Adek-----	15	Poor Carbonate content Cobble content Droughty	0.00 0.14 0.61	Poor Slope Cobble content	0.00 0.00
60: Leatherman-----	45	Poor Droughty Carbonate content Depth to cemented pan Depth to bedrock Sodium content	0.00 0.00 0.00 0.00 0.00 0.22	Poor Depth to cemented pan Depth to bedrock	0.00 0.00
Bluedome-----	30	Poor Carbonate content Too alkaline Depth to bedrock Depth to cemented pan Droughty Organic matter content low	0.00 0.00 0.03 0.03 0.04 0.12	Poor Depth to bedrock Depth to cemented pan	0.00 0.00

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
61: Malm-----	60	Fair Droughty Carbonate content Organic matter content low Depth to bedrock	 0.60 0.80 0.88  0.99	Poor Depth to bedrock	 0.00
Bondfarm-----	20	Poor Droughty Depth to bedrock Organic matter content low Carbonate content	 0.00 0.00 0.12  0.97	Poor Depth to bedrock	 0.00
Matheson-----	15	Fair Organic matter content low Droughty Carbonate content	 0.88  0.89 0.92	Fair Depth to bedrock	 0.16
62: Matheson-----	70	Fair Organic matter content low Droughty Carbonate content	 0.88  0.89 0.92	Fair Depth to bedrock	 0.16
Grassy Butte-----	20	Poor Wind erosion Too sandy Organic matter content low Droughty Carbonate content	 0.00 0.00 0.02  0.35 0.46	Good	
63: McCain-----	65	Fair Depth to bedrock Carbonate content Droughty Organic matter content low Water erosion	 0.35 0.46 0.75 0.88  0.90	Poor Depth to bedrock Low strength Shrink-swell	 0.00 0.00 0.87
Thornock-----	20	Poor Depth to bedrock Droughty Organic matter content low Water erosion Carbonate content Sodium content Stone content	 0.00 0.00 0.12  0.68 0.92 0.97 0.99	Poor Depth to bedrock	 0.00

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
64: McCarey-----	45	Fair Organic matter content low Depth to bedrock Carbonate content Water erosion	0.50 0.79 0.80 0.90	Poor Depth to bedrock Low strength	0.00 0.22
Beartrap-----	35	Fair Carbonate content Organic matter content low	0.46 0.88	Fair Depth to bedrock	0.74
65: McCarey-----	60	Fair Organic matter content low Depth to bedrock Carbonate content Water erosion	0.50 0.79 0.80 0.90	Poor Depth to bedrock Low strength	0.00 0.22
Beartrap-----	25	Fair Carbonate content Organic matter content low	0.46 0.88	Fair Depth to bedrock	0.74
66: McCarey-----	40	Fair Organic matter content low Depth to bedrock Carbonate content Water erosion	0.50 0.79 0.80 0.90	Poor Depth to bedrock Low strength	0.00 0.22
Beartrap-----	30	Fair Carbonate content Organic matter content low	0.46 0.88	Fair Depth to bedrock	0.74
Rock outcrop-----	25	Not rated		Not rated	
67: McCarey-----	40	Fair Depth to bedrock Carbonate content Water erosion Droughty	0.35 0.80 0.90 0.97	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.99
Molyneux-----	25	Fair Organic matter content low Water erosion	0.50 0.90	Poor Low strength Shrink-swell	0.00 0.90
Lava flows-----	20	Not rated		Not rated	

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
68: McCarey-----	55	Fair Organic matter content low Depth to bedrock Carbonate content Water erosion	0.50 0.79 0.80 0.90	Poor Depth to bedrock Low strength	0.00 0.22
Splitstop-----	20	Fair Depth to bedrock Organic matter content low Carbonate content Droughty Water erosion	0.54 0.88 0.97 0.98 0.99	Poor Depth to bedrock Low strength	0.00 0.00
Lava flows-----	15	Not rated		Not rated	
69: McCarey-----	45	Fair Organic matter content low Depth to bedrock Carbonate content Water erosion	0.50 0.79 0.80 0.90	Poor Depth to bedrock Low strength	0.00 0.22
Vickton-----	20	Fair Carbonate content Organic matter content low Water erosion	0.80 0.88 0.99	Poor Low strength Shrink-swell Depth to bedrock	0.00 0.87 0.99
Lava flows-----	15	Not rated		Not rated	
70: McClenden-----	55	Fair Organic matter content low Sodium content Water erosion	0.12 0.90 0.99	Fair Depth to cemented pan Depth to bedrock	0.68 0.68
Thornock-----	20	Poor Droughty Depth to bedrock Organic matter content low Water erosion Carbonate content Sodium content Stone content	0.00 0.00 0.12 0.68 0.92 0.97 0.99	Poor Depth to bedrock	0.00
71: Medicine-----	60	Poor Too sandy Organic matter content low Droughty Carbonate content	0.00 0.12 0.86 0.97	Good	

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
71: Whiteknob-----	25	Poor Too sandy Droughty Carbonate content Organic matter content low	 0.00 0.25 0.68 0.88	Good	
72: Menan-----	85	Fair Organic matter content low Water erosion Carbonate content Too clayey	 0.12  0.90 0.92 0.95	Poor Low strength Shrink-swell	 0.00 0.99
73: Mogg-----	45	Poor Droughty Depth to bedrock Stone content Organic matter content low Carbonate content	 0.00 0.00 0.00 0.88  0.92	Poor Depth to bedrock Slope Stone content	 0.00 0.00 0.00
Shagel-----	30	Poor Stone content Droughty Depth to bedrock Organic matter content low Carbonate content	 0.00 0.00 0.00 0.12  0.68	Poor Depth to bedrock Slope Stone content	 0.00 0.00 0.00
74: Mooretown-----	50	Fair Water erosion	 0.99	Fair Wetness depth	 0.76
Borah-----	40	Poor Too sandy Droughty Organic matter content low	 0.00 0.00 0.88	Fair Wetness depth	 0.14
75: Mooretown, drained--	50	Fair Water erosion	 0.99	Good	
Borco-----	30	Poor Droughty Too sandy Organic matter content low	 0.00 0.00 0.50	Good	



## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
76: Nargon-----	35	Fair Depth to bedrock Droughty Carbonate content Organic matter content low Water erosion	0.03 0.35 0.80 0.88 0.99	Poor Depth to bedrock	0.00
Atom-----	30	Poor Sodium content Organic matter content low Salinity Water erosion Carbonate content	0.00 0.12 0.50 0.90 0.92	Fair Low strength Shrink-swell	0.78 0.87
Techicknot-----	25	Fair Carbonate content Water erosion	0.80 0.99	Poor Low strength Shrink-swell	0.00 0.96
77: Nargon-----	50	Fair Depth to bedrock Organic matter content low Droughty Stone content Carbonate content Water erosion	0.01 0.12 0.15 0.70 0.80 0.99	Poor Depth to bedrock Stone content	0.00 0.98
Deuce-----	20	Poor Droughty Depth to bedrock Carbonate content Organic matter content low	0.00 0.00 0.46 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.93
Lava flows-----	10	Not rated		Not rated	
78: Nitchly-----	75	Poor Carbonate content Organic matter content low Too clayey	0.00 0.12 0.98	Poor Slope Cobble content Shrink-swell	0.00 0.94 0.98
79: Nurkey-----	50	Fair Carbonate content Organic matter content low Stone content	0.68 0.88 0.98	Fair Slope Cobble content Stone content	0.82 0.90 0.99
Dacont-----	30	Fair Organic matter content low Carbonate content	0.12 0.68	Fair Slope	0.82

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
80: Nurkey-----	50	Fair Carbonate content Organic matter content low Stone content	0.68 0.88  0.98	Poor Slope Cobble content Stone content	 0.00 0.90 0.99
Dacont-----	35	Fair Organic matter content low Carbonate content	0.12  0.68	Poor Slope	 0.00
81: Nurkey-----	80	Fair Carbonate content Organic matter content low Stone content	0.68 0.88  0.99	Fair Slope Cobble content Stone content	 0.50 0.94 0.98
Nurkey, low precipitation-----	20	Fair Carbonate content Organic matter content low	0.68 0.88	Fair Slope Cobble content No stoniness limitation	 0.50 0.94 0.99
82: Calcids-----	50	Fair Organic matter content low Droughty Cobble content	0.12  0.24 0.99	Poor Slope Cobble content	 0.00 0.45
Rubble land-----	20	Not rated		Not rated	
Rock outcrop-----	15	Not rated		Not rated	
83: Packmo-----	50	Fair Organic matter content low Droughty	0.12  0.17	Fair Cobble content	 0.99
Snowslide-----	40	Poor Droughty Salinity Sodium content Carbonate content Organic matter content low	 0.00 0.50 0.60 0.68 0.88	Good	
84: Paint-----	45	Poor Droughty Carbonate content Depth to cemented pan Depth to bedrock Sodium content	 0.00 0.00 0.00  0.00 0.22	Poor Depth to bedrock Depth to cemented pan	 0.00 0.00

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
84: Fallert-----	40	Poor Carbonate content Droughty Organic matter content low	0.00 0.01 0.12	Good	
85: Paint-----	65	Poor Droughty Carbonate content Depth to cemented pan Depth to bedrock Sodium content	0.00 0.00 0.00 0.00 0.00 0.22	Poor Depth to bedrock Depth to cemented pan	0.00 0.00
Whitecloud-----	20	Poor Carbonate content Too sandy Droughty Organic matter content low	0.00 0.00 0.06 0.12	Good	
86: Pancheri-----	80	Fair Organic matter content low Water erosion Sodium content Carbonate content	0.12 0.37 0.78 0.92	Good	
87: Pancheri-----	45	Fair Organic matter content low Water erosion Sodium content Carbonate content	0.12 0.37 0.78 0.92	Good	
Polatis-----	30	Fair Organic matter content low Water erosion Carbonate content Depth to bedrock	0.12 0.37 0.80 0.99	Poor Depth to bedrock	0.00
88: Playas-----	100	Not rated		Not rated	
89: Polatis-----	90	Fair Organic matter content low Water erosion Carbonate content Depth to bedrock	0.12 0.37 0.80 0.84	Poor Depth to bedrock	0.00

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
90: Portino-----	55	Fair Organic matter content low Depth to bedrock Water erosion Carbonate content Sodium content Droughty	0.12 0.46 0.68 0.80 0.97 0.99	Poor Depth to bedrock	0.00
Thornock-----	30	Poor Droughty Depth to bedrock Organic matter content low Water erosion Carbonate content Sodium content Stone content	0.00 0.00 0.12 0.68 0.92 0.97 0.99	Poor Depth to bedrock	0.00
91: Riverlost-----	45	Fair Organic matter content low Too clayey Carbonate content Water erosion	0.12 0.68 0.80 0.99	Poor Low strength Slope Shrink-swell	0.00 0.08 0.96
Frymire-----	40	Poor Too clayey Stone content Organic matter content low Cobble content	0.00 0.05 0.12 0.42	Poor Cobble content Slope Low strength Stone content Shrink-swell	0.00 0.00 0.00 0.00 0.28
92: Riverlost-----	60	Fair Organic matter content low Too clayey Carbonate content Water erosion	0.12 0.68 0.80 0.99	Poor Low strength Slope Shrink-swell	0.00 0.08 0.96
Grouseville-----	20	Fair Too clayey	0.98	Poor Low strength Slope Shrink-swell	0.00 0.00 0.47
93: Riverlost-----	55	Fair Organic matter content low Too clayey Carbonate content Water erosion	0.12 0.68 0.80 0.99	Poor Low strength Slope Shrink-swell	0.00 0.08 0.96

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
93: Soen-----	30	Fair Organic matter content low Carbonate content Water erosion	0.88 0.92 0.99	Poor Low strength Shrink-swell Slope	0.00 0.72 0.82
94: Rubble land-----	40	Not rated		Not rated	
Milligan-----	35	Poor Droughty Stone content Organic matter content low Depth to bedrock	0.00 0.00 0.88 0.99	Poor Slope Stone content Depth to bedrock Cobble content	0.00 0.00 0.00 0.55
95: Sanfelipe-----	85	Poor Carbonate content Droughty Organic matter content low	0.00 0.74 0.88	Good	
96: Sanfelipe-----	90	Poor Carbonate content Droughty Organic matter content low	0.00 0.74 0.88	Good	
97: Sanfelipe-----	65	Poor Carbonate content Organic matter content low Droughty	0.00 0.12 0.94	Good	
McCaleb-----	25	Poor Carbonate content Organic matter content low Sodium content Water erosion	0.00 0.12 0.22 0.99	Good	
98: Sanfelipe-----	70	Poor Carbonate content Droughty Organic matter content low	0.00 0.74 0.88	Good	
Simeroi-----	20	Poor Carbonate content Droughty Organic matter content low	0.00 0.50 0.88	Good	

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material	Potential source of roadfill		
		Rating class and limiting features	Value	Rating class and limiting features	Value
99: Simeroi-----	85	Poor Carbonate content Droughty Organic matter content low	0.00 0.50 0.88	Good	
100: Simeroi-----	75	Poor Carbonate content Droughty Organic matter content low	0.00 0.50 0.88	Good	
101: Simeroi-----	85	Poor Carbonate content Droughty Organic matter content low	0.00 0.50 0.88	Good	
102: Simeroi, cool-----	85	Poor Carbonate content Droughty Organic matter content low	0.00 0.50 0.88	Good	
103: Simeroi, dry-----	80	Poor Carbonate content Droughty Organic matter content low	0.00 0.50 0.88	Fair Slope	0.50
104: Simeroi-----	60	Poor Carbonate content Droughty Organic matter content low	0.00 0.50 0.88	Good	
Paint-----	25	Poor Carbonate content Depth to cemented pan Depth to bedrock Droughty Sodium content	0.00 0.00 0.00 0.00 0.22	Poor Depth to bedrock Depth to cemented pan	0.00 0.00
105: Simeroi, dry-----	50	Poor Carbonate content Droughty Organic matter content low	0.00 0.50 0.88	Fair Slope	0.82

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
105: Simeroi-----	30	Poor Carbonate content Droughty Organic matter content low	0.00 0.50 0.88	Fair Slope	0.82
106: Simeroi-----	60	Poor Carbonate content Droughty Organic matter content low	0.00 0.50 0.88	Good	
Sparmo-----	25	Fair Organic matter content low Carbonate content Water erosion Sodium content	0.12 0.68 0.90 0.97	Good	
107: Simeroi-----	40	Poor Carbonate content Droughty Organic matter content low	0.00 0.50 0.88	Good	
Slide-----	35	Poor Carbonate content Organic matter content low Droughty	0.00 0.12 0.51	Good	
McCaleb-----	15	Poor Carbonate content Organic matter content low Sodium content Water erosion	0.00 0.12 0.22 0.99	Good	
108: Simeroi-----	40	Poor Carbonate content Droughty Organic matter content low	0.00 0.50 0.88	Poor Slope	0.00
Bealand-----	40	Poor Carbonate content Organic matter content low	0.00 0.12	Poor Slope	0.00
109: Slide-----	80	Poor Carbonate content Organic matter content low Droughty	0.00 0.12 0.17	Good	

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
110: Snowslide-----	80	Poor Droughty Salinity Sodium content Carbonate content Organic matter content low	0.00 0.50 0.60 0.68 0.88	Good	
111: Snowslide-----	85	Fair Droughty Salinity Sodium content Carbonate content Organic matter content low	0.02 0.50 0.60 0.68 0.88	Good	
112: Snowslide-----	80	Poor Droughty Salinity Sodium content Carbonate content Organic matter content low	0.00 0.50 0.60 0.68 0.88	Good	
Zer-----	15	Fair Carbonate content Organic matter content low Droughty	0.08 0.12 0.52	Fair	
113: Snowslide-----	35	Poor Droughty Salinity Sodium content Carbonate content Organic matter content low	0.00 0.50 0.60 0.68 0.88	Fair Slope	0.50
Zer-----	30	Fair Carbonate content Organic matter content low Droughty	0.08 0.12 0.52	Fair Slope	0.50
Snowslide, low precipitation-----	20	Poor Droughty Salinity Sodium content Carbonate content Organic matter content low	0.00 0.50 0.60 0.68 0.88	Fair Slope	0.50



## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
114: Soen-----	80	Fair Organic matter content low Carbonate content Water erosion	0.88 0.92 0.99	Poor Low strength Shrink-swell	0.00 0.72
115: Soen-----	70	Fair Organic matter content low Carbonate content Water erosion	0.88 0.92 0.99	Poor Low strength Shrink-swell	0.00 0.72
Justesen-----	25	Fair Organic matter content low Carbonate content Water erosion	0.12 0.68 0.99	Good	
116: Sparmo-----	75	Fair Organic matter content low Carbonate content Water erosion Sodium content	0.12 0.68 0.90 0.97	Good	
117: Sparmo-----	50	Fair Organic matter content low Carbonate content Water erosion Sodium content	0.12 0.68 0.90 0.97	Good	
Bluedome-----	35	Poor Carbonate content Too alkaline Depth to bedrock Depth to cemented pan Droughty Organic matter content low	0.00 0.00 0.05 0.05 0.10 0.12	Poor Depth to cemented pan Depth to bedrock	0.00 0.00
118: Sparmo-----	45	Fair Organic matter content low Carbonate content Water erosion Sodium content	0.12 0.68 0.90 0.97	Good	
Zer-----	45	Fair Carbonate content Organic matter content low Droughty Too sandy	0.08 0.12 0.14 0.30	Good	

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
119: Splittop-----	50	Fair Droughty Organic matter content low Depth to bedrock Carbonate content Water erosion	 0.08 0.12  0.71 0.92 0.99	Poor Depth to bedrock Low strength	 0.00 0.00
Atomic-----	30	Fair Carbonate content Organic matter content low Water erosion	 0.46 0.88  0.99	Poor Low strength Depth to bedrock Shrink-swell	 0.00 0.23 0.87
120: Splittop-----	50	Fair Droughty Organic matter content low Depth to bedrock Carbonate content Water erosion	 0.08 0.12  0.71 0.92 0.99	Poor Depth to bedrock Low strength	 0.00 0.00
Coffee-----	30	Poor Sodium content Organic matter content low Salinity Carbonate content Droughty Water erosion	 0.00 0.12  0.50 0.80 0.90 0.90	Poor Low strength Depth to bedrock Shrink-swell	 0.00 0.39 0.87
121: Stan-----	95	Fair Organic matter content low Carbonate content	 0.88  0.92	Good	
122: Stan-----	55	Fair Organic matter content low Carbonate content	 0.88  0.92	Good	
Breitenbach-----	30	Fair Organic matter content low Droughty	 0.12  0.96	Good	
123: Stan, loamy fine sand surface-----	70	Poor Wind erosion Organic matter content low Carbonate content	 0.00 0.12  0.92	Good	

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
123: Stan-----	25	Fair Organic matter content low Carbonate content	0.88 0.92	Good	
124: Starlite-----	80	Poor Carbonate content Organic matter content low Water erosion	0.00 0.88 0.90	Good	
125: Techick-----	50	Fair Organic matter content low Carbonate content	0.88 0.92	Good	
Soelberg-----	45	Fair Carbonate content Water erosion	0.92 0.99	Good	
126: Techick-----	40	Fair Organic matter content low Carbonate content	0.88 0.92	Good	
Soelberg-----	35	Fair Organic matter content low Carbonate content Water erosion	0.88 0.92 0.99	Good	
Lesbut-----	15	Fair Droughty Organic matter content low Too sandy	0.10 0.12 0.14	Good	
127: Techicknot-----	45	Fair Carbonate content Water erosion	0.80 0.99	Poor Low strength Shrink-swell	0.00 0.96
Atom-----	25	Poor Sodium content Organic matter content low Salinity Water erosion Carbonate content	0.00 0.12 0.50 0.90 0.92	Fair Low strength Shrink-swell	0.78 0.87

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material	Potential source of roadfill		
		Rating class and limiting features	Value	Rating class and limiting features	Value
127: Nargon-----	20	Fair Depth to bedrock Droughty Carbonate content Organic matter content low Water erosion	0.03 0.26 0.68 0.88 0.99	Poor Depth to bedrock	0.00
128: Tenno-----	50	Poor Depth to bedrock Droughty Stone content Organic matter content low Water erosion Carbonate content	0.00 0.01 0.23 0.88 0.90 0.97	Poor Depth to bedrock Stone content	0.00 0.87
Splittop-----	25	Fair Depth to bedrock Organic matter content low Droughty Carbonate content Water erosion	0.84 0.88 0.89 0.97 0.99	Poor Depth to bedrock Low strength	0.00 0.00
Lava flows-----	15	Not rated		Not rated	
129: Tenno-----	45	Poor Depth to bedrock Droughty Stone content Organic matter content low Water erosion Carbonate content	0.00 0.01 0.23 0.88 0.90 0.97	Poor Depth to bedrock Stone content	0.00 0.87
Splittop-----	25	Fair Depth to bedrock Droughty Organic matter content low Carbonate content Water erosion	0.54 0.69 0.88 0.97 0.99	Poor Depth to bedrock Low strength	0.00 0.00
McCarey-----	20	Fair Depth to bedrock Droughty Carbonate content Water erosion	0.01 0.19 0.80 0.90	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.99

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
130: Thornock-----	45	Poor Droughty Depth to bedrock Organic matter content low Water erosion Carbonate content Sodium content Stone content	 0.00 0.00 0.12  0.68 0.92 0.97 0.99	Poor Depth to bedrock	 0.00
Portino-----	35	Fair Organic matter content low Depth to bedrock Water erosion Carbonate content Droughty Sodium content	 0.12  0.46 0.68 0.80 0.94 0.97	Poor Depth to bedrock	 0.00
131: Thornock-----	50	Poor Droughty Depth to bedrock Organic matter content low Water erosion Carbonate content Sodium content Stone content	 0.00 0.00 0.12  0.68 0.92 0.97 0.99	Poor Depth to bedrock	 0.00
Portino-----	25	Fair Organic matter content low Depth to bedrock Water erosion Carbonate content Droughty Sodium content	 0.12  0.46 0.68 0.80 0.91 0.97	Poor Depth to bedrock	 0.00
132: Thosand-----	50	Poor Carbonate content Water erosion	 0.00 0.68	Poor Wetness depth Low strength Shrink-swell	 0.00 0.22 0.99
Sancrane-----	25	Fair Organic matter content low Carbonate content Too acid	 0.12  0.32 0.50	Poor Wetness depth	 0.00

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material	Potential source of roadfill		
		Rating class and limiting features	Value	Rating class and limiting features	Value
133: Truesdale-----	45	Poor Too alkaline Depth to bedrock Depth to cemented pan Droughty Carbonate content Water erosion	0.00 0.01 0.01 0.02 0.32 0.68	Poor Depth to cemented pan Depth to bedrock	0.00 0.00
Minidoka-----	40	Fair Carbonate content Depth to bedrock Depth to cemented pan Water erosion Organic matter content low Droughty	0.46 0.46 0.46 0.68 0.88 0.99	Poor Depth to cemented pan Depth to bedrock	0.00 0.00
134: Vitale-----	45	Poor Droughty Cobble content Depth to bedrock Too clayey	0.00 0.02 0.79 0.99	Poor Depth to bedrock Cobble content Slope Shrink-swell	0.00 0.00 0.00 0.99
Blackspars-----	35	Poor Droughty Depth to bedrock Cobble content	0.00 0.00 0.00	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.30
135: Whitecloud-----	75	Poor Too sandy Carbonate content Organic matter content low Droughty	0.00 0.00 0.12 content low 0.14	Good	
136: Whitecloud-----	55	Poor Too sandy Carbonate content Organic matter content low Droughty	0.00 0.00 0.12 content low 0.19	Good	
Sanfelipe-----	25	Poor Carbonate content Organic matter content low Droughty	0.00 0.12 content low 0.64	Good	
137: Zeale-----	70	Poor Carbonate content Droughty	0.00 0.40	Good	

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
137: Zeale, high precipitation-----	25	Poor Carbonate content Droughty	0.00 0.60	Good	
138: Zeale-----	70	Poor Carbonate content Droughty	0.00 0.40	Poor Slope	0.00
Zeale, high precipitation-----	25	Poor Carbonate content Droughty	0.00 0.60	Poor Slope	0.00
139: Zeale-----	35	Poor Carbonate content Droughty	0.00 0.63	Poor Slope	0.00
Coalkiln-----	25	Poor Carbonate content Organic matter content low Too acid Droughty	0.00 0.12 0.32 0.95	Poor Slope Cobble content	0.00 0.99
Jimbee-----	25	Poor Droughty Carbonate content Depth to bedrock Stone content	0.00 0.00 0.00 0.42	Poor Depth to bedrock Slope Stone content	0.00 0.00 0.94
140: Zeebar, cool-----	55	Fair Organic matter content low Stone content Droughty	0.88 0.96 0.96	Poor Slope Stone content	0.00 0.99
Zeebar-----	30	Fair Droughty Organic matter content low Stone content	0.77 0.88 0.99	Poor Slope	0.00
141: Zeebar-----	40	Fair Organic matter content low Droughty	0.12 0.22	Poor Slope	0.00
Parvis-----	25	Poor Stone content Droughty	0.00 0.94	Poor Stone content Slope Shrink-swell	0.00 0.00 0.99

## Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value
141: Howcan-----	20	Poor Stone content Droughty Cobble content	0.00 0.37 0.75	Poor Stone content Slope Cobble content Depth to bedrock	0.00 0.00 0.04 0.87
142: Zer-----	85	Fair Carbonate content Organic matter content low Droughty	0.08 0.88 0.98	Good	
143: Zer-----	85	Fair Carbonate content Organic matter content low Droughty Too sandy	0.08 0.12 0.37 0.68	Good	
144: Zer-----	95	Fair Carbonate content Droughty Organic matter content low	0.08 0.13 0.88	Fair Cobble content	0.99
145: Zer-----	80	Fair Droughty Carbonate content Organic matter content low	0.02 0.08 0.12	Poor Slope	0.00
146: Zer-----	45	Fair Carbonate content Organic matter content low Droughty	0.08 0.12 0.64	Fair Cobble content	0.98
Snowslide-----	40	Fair Salinity Droughty Sodium content Carbonate content Organic matter content low	0.50 0.52 0.60 0.68 0.88	Good	
147: Zer-----	65	Fair Carbonate content Organic matter content low Droughty	0.08 0.12 0.38	Good	



Source of Reclamation Material and Roadfill--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material	Potential source of roadfill		
		Rating class and limiting features	Value	Rating class and limiting features	Value
147: Whiteknob-----	25	Fair Too sandy Droughty Carbonate content Organic matter content low	 0.02 0.05 0.68 0.88	Good	
148: Mooretown-----	45	Fair Water erosion	 0.99	Fair Wetness depth	0.76
Blackfoot-----	25	Fair Carbonate content Organic matter content low Water erosion	 0.46 0.88 0.99	Fair Wetness depth	0.76
Borah-----	20	Poor Droughty Too sandy Organic matter content low	 0.00 0.19 0.88	Fair Wetness depth	0.14
149: Drage, cool-----	85	Fair Organic matter content low Droughty Cobble content Carbonate content Too clayey Stone content	 0.12 0.63 0.92 0.92 0.95 0.99	Fair Cobble content	0.46
150: Vitale-----	45	Poor Droughty Cobble content Depth to bedrock Too clayey	 0.00 0.00 0.05 0.95	Poor Slope Depth to bedrock Cobble content	 0.00 0.00 0.00
Blackspars-----	35	Poor Droughty Depth to bedrock Cobble content Organic matter content low	 0.00 0.00 0.11 0.88	Poor Depth to bedrock Slope Cobble content	 0.00 0.00 0.25

## Ponds and Embankments

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1: Arco-----	85	Somewhat limited Seepage	0.54	Somewhat limited Depth to saturated zone Piping	0.65 0.09
2: Atom-----	80	Somewhat limited Seepage	0.04	Very limited Piping Salinity	1.00 0.50
3: Atom-----	85	Somewhat limited Slope Seepage	0.68 0.04	Very limited Piping Salinity	1.00 0.50
4: Atom-----	50	Somewhat limited Seepage	0.04	Very limited Piping Salinity	1.00 0.50
Splittop-----	40	Somewhat limited Depth to bedrock Seepage	0.74 0.70	Somewhat limited Thin layer Piping	0.74 0.35
5: Bealand-----	60	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.10
Zeale-----	25	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.20
6: Blackfoot-----	85	Somewhat limited Seepage	0.70	Somewhat limited Depth to saturated zone Piping	0.99 0.05
7: Bluedome-----	80	Very limited Seepage Depth to cemented pan Slope	1.00 0.66 0.08	Somewhat limited Thin layer Piping	0.66 0.02
8: Bluedome-----	50	Very limited Seepage Depth to cemented pan Slope	1.00 0.91 0.08	Very limited Piping Thin layer	1.00 0.91

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
8: McCaleb-----	30	Somewhat limited Seepage Slope	0.70 0.08	Very limited Piping	1.00
9: Bockston-----	80	Very limited Seepage	1.00	Very limited Piping	1.00
10: Breitenbach-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.85
11: Breitenbach-----	65	Very limited Seepage	1.00	Somewhat limited Seepage	0.85
Stan-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.25
12: Buist-----	90	Very limited Seepage Slope	1.00 0.92	Somewhat limited Seepage	0.45
13: Bunting-----	95	Very limited Seepage	1.00	Somewhat limited Seepage	0.15
14: Coffee-----	80	Somewhat limited Seepage Depth to bedrock	0.70 0.16	Very limited Piping Salinity Thin layer	1.00 0.50 0.16
15: Coffee-----	45	Very limited Slope Seepage Depth to bedrock	1.00 0.70 0.16	Very limited Piping Salinity Thin layer	1.00 0.50 0.16
Nargon-----	30	Very limited Slope Depth to bedrock Seepage	1.00 0.99 0.04	Very limited Thin layer Piping	0.99 0.22
16: Coffee-----	30	Somewhat limited Slope Seepage Depth to bedrock	0.92 0.70 0.16	Very limited Piping Salinity Thin layer	1.00 0.50 0.16
Nargon-----	30	Somewhat limited Depth to bedrock Slope Seepage	0.99 0.92 0.04	Very limited Thin layer Piping	0.99 0.22
Atom-----	15	Somewhat limited Slope Seepage	0.92 0.04	Very limited Piping Salinity	1.00 0.50

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
17: Cronks-----	40	Very limited Slope Seepage	1.00 0.54	Somewhat limited Large stones content	0.16
Dacont-----	35	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.10
18: Crooked Creek-----	85	Somewhat limited Seepage	0.04	Not limited	
19: Cryoborolls-----	50	Very limited Slope Seepage	1.00 1.00	Somewhat limited Large stones content Seepage	0.89 0.35
Rubble land-----	20	Very limited Slope	1.00	Not rated	
Rock outcrop-----	15	Very limited Slope Depth to bedrock	1.00 1.00	Not rated	
20: Darlington-----	60	Very limited Seepage	1.00	Somewhat limited Seepage	0.55
Lesbut-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.70
21: Denied access-----	100	Not rated		Not rated	
22: Deuce-----	45	Very limited Depth to bedrock Slope	1.00 0.92	Very limited Thin layer Piping	1.00 0.38
Nargon-----	20	Somewhat limited Depth to bedrock Slope Seepage	0.99 0.92 0.04	Very limited Thin layer Piping	0.99 0.22
Lava flows-----	15	Very limited Depth to bedrock Slope	1.00 0.92	Not rated	
23: Deuce-----	35	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Piping	1.00 0.09
Nargon-----	20	Very limited Slope Depth to bedrock Seepage	1.00 0.99 0.04	Very limited Thin layer Piping	0.99 0.41

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
23: Lava flows-----	20	Very limited Slope Depth to bedrock	1.00 1.00	Not rated	
24: Dickeypeak-----	50	Very limited Seepage	1.00	Very limited Piping Depth to saturated zone Salinity	1.00 0.84 0.50
Bigrant-----	40	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.40
25: Donkehill-----	85	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer	1.00
26: Dredge-----	80	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.50
27: Elbow-----	80	Very limited Seepage Depth to cemented pan	1.00 0.99	Somewhat limited Thin layer Seepage	0.99 0.78
28: Fallert-----	80	Very limited Seepage Slope	1.00 0.32	Somewhat limited Seepage	0.35
29: Fallert, dry-----	80	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.35
30: Fandow-----	80	Very limited Seepage Depth to cemented pan Slope	1.00 1.00 0.08	Very limited Thin layer Seepage Piping	1.00 0.40 0.02
31: Fulwider, high precipitation-----	40	Very limited Depth to cemented pan Slope Seepage	1.00 1.00 0.70	Very limited Thin layer Piping	1.00 0.22

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31: Fulwider, low precipitation-----	30	Very limited Depth to cemented pan Slope Seepage	1.00 1.00 0.70	Very limited Thin layer Piping	1.00 0.22
Fulwider-----	15	Very limited Seepage Depth to cemented pan Slope	1.00 1.00 1.00	Very limited Thin layer Piping	1.00 0.22
32: Goosebury, high precipitation-----	90	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.11
33: Goosebury-----	80	Very limited Seepage Slope	1.00 0.32	Somewhat limited Seepage	0.11
34: Goosebury, low precipitation-----	45	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.53
Goosebury, high precipitation-----	35	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.62
35: Hagenbarth-----	30	Very limited Slope Seepage	1.00 0.04	Not limited	
Howcan-----	25	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.03	Very limited Large stones content Seepage Thin layer	1.00 0.18 0.03
Jonda-----	20	Very limited Seepage Slope	1.00 1.00	Very limited Large stones content Seepage	1.00 0.62
36: Hal-----	60	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.95
Moonville-----	25	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.52

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
37: Hondoho-----	85	Very limited Slope Seepage	1.00 0.70	Somewhat limited Large stones content	0.01
38: Howcan-----	50	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.03	Very limited Large stones content Seepage Thin layer	1.00 0.18 0.03
Hutchley-----	35	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Large stones content	1.00 0.06
Rock outcrop-----	10	Very limited Slope Depth to bedrock	1.00 1.00	Not rated	
39: Howcan-----	35	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.03	Very limited Large stones content Seepage Thin layer	1.00 0.18 0.03
Zeebar-----	25	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.38
Hutchley-----	20	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Large stones content	1.00 0.06
40: Huddle-----	65	Somewhat limited Slope Seepage Depth to bedrock	0.92 0.70 0.10	Very limited Piping Thin layer	0.99 0.11
Moonville-----	20	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.52
41: Ike-----	40	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Large stones content Seepage	1.00 0.70 0.20
Rock outcrop-----	20	Very limited Slope Depth to bedrock	1.00 1.00	Not rated	

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
41: Jimbee-----	15	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Seepage	1.00 0.10
42: Ike-----	45	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Large stones content Seepage	1.00 0.70 0.20
Simeroi-----	30	Very limited Slope Seepage	1.00 1.00	Somewhat limited Seepage	0.28
Rock outcrop-----	10	Very limited Slope Depth to bedrock	1.00 1.00	Not rated	
43: Inel-----	35	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Large stones content Seepage	1.00 0.15 0.03
Matheson-----	30	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.26	Somewhat limited Thin layer Seepage	0.26 0.02
Rock outcrop-----	25	Very limited Slope Depth to bedrock	1.00 1.00	Not rated	
44: Inel-----	55	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Large stones content	1.00 0.01
Slide-----	15	Very limited Slope Seepage	1.00 1.00	Somewhat limited Seepage	0.45
Rock outcrop-----	15	Very limited Slope Depth to bedrock	1.00 1.00	Not rated	
45: Jimbee-----	40	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Seepage	1.00 0.10
Rock outcrop-----	20	Very limited Slope Depth to bedrock	1.00 1.00	Not rated	



## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
45: Ike-----	15	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Large stones content Seepage	1.00 0.70 0.20
46: Jimbee-----	40	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Large stones content	1.00 0.01
Skibo-----	30	Very limited Slope Seepage	1.00 1.00	Somewhat limited Seepage	0.50
Ike-----	15	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Large stones content Seepage	1.00 0.70 0.20
47: Justesen-----	45	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.88
Drage-----	40	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage Large stones content	0.32 0.07
48: Ketchum-----	50	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.85
Povey-----	30	Very limited Slope Seepage Depth to bedrock	1.00 0.70 0.02	Very limited Large stones content Seepage Thin layer	1.00 0.57 0.02
49: Kimama-----	90	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.62
50: Klug-----	90	Very limited Slope Seepage	1.00 1.00	Somewhat limited Seepage	0.35
51: Klug-----	60	Very limited Slope Seepage	1.00 1.00	Somewhat limited Seepage	0.35

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
51: Parvis-----	20	Very limited Slope Seepage	1.00 0.70	Somewhat limited Large stones content Seepage	0.79 0.05
52: Lag-----	90	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.45
53: Lavacreek-----	65	Very limited Seepage Slope	1.00 1.00	Somewhat limited Large stones content Seepage	0.80 0.57
Dollarhide-----	25	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Seepage	1.00 0.28
54: Lavacreek-----	45	Very limited Seepage Slope	1.00 1.00	Somewhat limited Large stones content Seepage	0.80 0.57
Dollarhide-----	20	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Seepage	1.00 0.28
Grassycone-----	20	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.05
55: Lavacreek-----	45	Very limited Seepage Slope	1.00 1.00	Somewhat limited Large stones content Seepage	0.80 0.57
Vitale-----	35	Very limited Slope Depth to bedrock Seepage	1.00 0.77 0.70	Very limited Large stones content Thin layer	1.00 0.77
56: Lava flows-----	100	Not rated		Not rated	
57: Lava flows-----	70	Very limited Depth to bedrock Slope	1.00 1.00	Not rated	
Cinderhurst-----	20	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Thin layer Large stones content Piping	1.00 1.00 0.84

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
58: Lava flows-----	60	Very limited Depth to bedrock Slope	1.00 0.08	Not rated	
Pingree-----	35	Very limited Depth to bedrock	1.00	Very limited Thin layer Piping	1.00 0.92
59: Leatherman-----	45	Very limited Seepage Slope Depth to cemented pan	1.00 1.00 1.00	Very limited Thin layer Piping Seepage	1.00 0.78 0.05
Adek, dry-----	20	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.75
Adek-----	15	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage Large stones content	0.62 0.50
60: Leatherman-----	45	Very limited Seepage Depth to cemented pan Slope	1.00 1.00 0.32	Very limited Thin layer Piping Seepage	1.00 0.78 0.05
Bluedome-----	30	Very limited Seepage Depth to cemented pan Slope	1.00 0.99 0.32	Very limited Thin layer Piping	0.99 0.02
61: Malm-----	60	Very limited Seepage Depth to bedrock Slope	1.00 0.56 0.32	Somewhat limited Thin layer	0.56
Bondfarm-----	20	Very limited Depth to bedrock Slope	1.00 0.32	Very limited Thin layer	1.00
Matheson-----	15	Very limited Seepage Slope Depth to bedrock	1.00 0.32 0.26	Somewhat limited Thin layer Seepage	0.26 0.02
62: Matheson-----	70	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.26	Somewhat limited Thin layer Seepage	0.26 0.02

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
62: Grassy Butte-----	20	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.10
63: McCain-----	65	Somewhat limited Depth to bedrock Seepage	0.91 0.70	Somewhat limited Thin layer Piping	0.91 0.76
Thornock-----	20	Very limited Depth to bedrock	1.00	Very limited Thin layer Piping	1.00 1.00
64: McCarey-----	45	Somewhat limited Depth to bedrock Seepage Slope	0.77 0.70 0.08	Somewhat limited Piping Thin layer	0.85 0.77
Beartrap-----	35	Somewhat limited Seepage Slope Depth to bedrock	0.70 0.08 0.06	Somewhat limited Thin layer	0.06
65: McCarey-----	60	Very limited Slope Depth to bedrock Seepage	1.00 0.77 0.70	Somewhat limited Piping Thin layer	0.85 0.77
Beartrap-----	25	Very limited Slope Seepage Depth to bedrock	1.00 0.70 0.06	Somewhat limited Thin layer	0.06
66: McCarey-----	40	Very limited Slope Depth to bedrock Seepage	1.00 0.77 0.70	Somewhat limited Piping Thin layer	0.85 0.77
Beartrap-----	30	Very limited Slope Seepage Depth to bedrock	1.00 0.70 0.06	Somewhat limited Thin layer	0.06
Rock outcrop-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Not rated	
67: McCarey-----	40	Very limited Slope Depth to bedrock Seepage	1.00 0.91 0.70	Somewhat limited Thin layer Piping	0.91 0.69
Molyneux-----	25	Somewhat limited Seepage Slope	0.70 0.32	Somewhat limited Piping	0.48

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
67: Lava flows-----	20	Very limited Depth to bedrock Slope	1.00 1.00	Not rated	
68: McCarey-----	55	Somewhat limited Depth to bedrock Seepage Slope	0.77 0.70 0.68	Somewhat limited Piping Thin layer	0.85 0.77
Splittop-----	20	Somewhat limited Depth to bedrock Seepage Slope	0.86 0.70 0.68	Somewhat limited Thin layer Piping	0.86 0.36
Lava flows-----	15	Very limited Depth to bedrock Slope	1.00 0.68	Not rated	
69: McCarey-----	45	Very limited Slope Depth to bedrock Seepage	1.00 0.77 0.70	Somewhat limited Piping Thin layer	0.85 0.77
Vickton-----	20	Somewhat limited Slope Seepage Depth to bedrock	0.68 0.04 0.01	Somewhat limited Piping Thin layer	0.01 0.01
Lava flows-----	15	Very limited Depth to bedrock Slope	1.00 1.00	Not rated	
70: McClenden-----	55	Very limited Seepage Depth to cemented pan Depth to bedrock	1.00 0.08 0.04	Somewhat limited Piping Thin layer Seepage	0.10 0.08 0.01
Thornock-----	20	Very limited Depth to bedrock	1.00	Very limited Thin layer Piping	1.00 1.00
71: Medicine-----	60	Very limited Seepage	1.00	Somewhat limited Seepage	0.78
Whiteknob-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.97
72: Menan-----	85	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.05

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
73: Mogg-----	45	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Large stones content	1.00 0.19
Shagel-----	30	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Seepage Large stones content	1.00 0.88 0.09
74: Mooretown-----	50	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.95 0.40
Borah-----	40	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.82
75: Mooretown, drained--	50	Very limited Seepage	1.00	Somewhat limited Seepage	0.40
Borco-----	30	Very limited Seepage	1.00	Somewhat limited Seepage	0.88
76: Nargon-----	35	Very limited Slope Depth to bedrock Seepage	1.00 0.99 0.04	Very limited Thin layer Piping	0.99 0.22
Atom-----	30	Very limited Slope Seepage	1.00 0.04	Very limited Piping Salinity	1.00 0.50
Techicknot-----	25	Somewhat limited Slope Seepage	0.68 0.54	Somewhat limited Piping	0.03
77: Nargon-----	50	Very limited Slope Depth to bedrock Seepage	1.00 0.99 0.04	Very limited Thin layer Piping	0.99 0.41
Deuce-----	20	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Thin layer Piping	1.00 0.38
Lava flows-----	10	Very limited Depth to bedrock Slope	1.00 1.00	Not rated	

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
78: Nitchly-----	75	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.12
79: Nurkey-----	50	Very limited Slope Seepage	1.00 0.04	Somewhat limited Seepage	0.15
Dacont-----	30	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.10
80: Nurkey-----	50	Very limited Slope Seepage	1.00 0.04	Somewhat limited Seepage	0.15
Dacont-----	35	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.10
81: Nurkey-----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.12
Nurkey, low precipitation-----	20	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.12
82: Calcids-----	50	Very limited Slope Seepage	1.00 1.00	Somewhat limited Seepage Large stones content	0.55 0.01
Rubble land-----	20	Very limited Slope	1.00	Not rated	
Rock outcrop-----	15	Very limited Slope Depth to bedrock	1.00 1.00	Not rated	
83: Packmo-----	50	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.47
Snowslide-----	40	Very limited Slope Seepage	1.00 0.70	Somewhat limited Salinity Seepage Piping	0.50 0.40 0.40

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
84: Paint-----	45	Very limited Seepage Depth to cemented pan Slope	1.00 1.00 1.00	Very limited Thin layer Piping	1.00 0.78
Fallert-----	40	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.35
85: Paint-----	65	Very limited Seepage Depth to cemented pan	1.00 1.00	Very limited Thin layer Piping Seepage	1.00 0.78 0.18
Whitecloud-----	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.40
86: Pancheri-----	80	Somewhat limited Seepage Slope	0.70 0.32	Very limited Piping	1.00
87: Pancheri-----	45	Somewhat limited Slope Seepage	0.92 0.70	Very limited Piping	1.00
Polatis-----	30	Somewhat limited Slope Seepage Depth to bedrock	0.92 0.70 0.52	Very limited Piping Thin layer	1.00 0.52
88: Playas-----	100	Not limited		Not rated	
89: Polatis-----	90	Somewhat limited Depth to bedrock Seepage	0.74 0.70	Very limited Piping Thin layer	1.00 0.74
90: Portino-----	55	Somewhat limited Depth to bedrock Seepage	0.88 0.70	Very limited Piping Thin layer	1.00 0.88
Thornock-----	30	Very limited Depth to bedrock	1.00	Very limited Thin layer Piping	1.00 1.00
91: Riverlost-----	45	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.03



## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
91: Frymire-----	40	Very limited Slope Seepage	1.00 0.04	Very limited Large stones content Hard to pack	1.00 0.45
92: Riverlost-----	60	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.03
Grouseville-----	20	Very limited Slope	1.00	Not limited	
93: Riverlost-----	55	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.03
Soen-----	30	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.05
94: Rubble land-----	40	Very limited Slope	1.00	Not rated	
Milligan-----	35	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.56	Very limited Large stones content Seepage Thin layer	1.00 0.60 0.56
95: Sanfelipe-----	85	Very limited Seepage Slope	1.00 0.68	Somewhat limited Seepage	0.38
96: Sanfelipe-----	90	Very limited Slope Seepage	1.00 1.00	Somewhat limited Seepage	0.38
97: Sanfelipe-----	65	Very limited Seepage	1.00	Somewhat limited Seepage	0.15
McCaleb-----	25	Somewhat limited Seepage	0.70	Very limited Piping	1.00
98: Sanfelipe-----	70	Very limited Seepage	1.00	Somewhat limited Seepage	0.43
Simeroi-----	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.28

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
99: Simeroi-----	85	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.28
100: Simeroi-----	75	Very limited Slope Seepage	1.00 1.00	Somewhat limited Seepage	0.28
101: Simeroi-----	85	Very limited Slope Seepage	1.00 1.00	Somewhat limited Seepage	0.28
102: Simeroi, cool-----	85	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.28
103: Simeroi, dry-----	80	Very limited Slope Seepage	1.00 1.00	Somewhat limited Seepage	0.28
104: Simeroi-----	60	Very limited Seepage Slope	1.00 0.32	Somewhat limited Seepage	0.28
Paint-----	25	Very limited Seepage Depth to cemented pan Slope	1.00 1.00 0.32	Very limited Thin layer Piping	1.00 0.78
105: Simeroi, dry-----	50	Very limited Slope Seepage	1.00 1.00	Somewhat limited Seepage	0.28
Simeroi-----	30	Very limited Slope Seepage	1.00 1.00	Somewhat limited Seepage	0.28
106: Simeroi-----	60	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.28
Sparmo-----	25	Very limited Seepage Slope	1.00 1.00	Very limited Piping	1.00
107: Simeroi-----	40	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.28

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
107: Slide-----	35	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.45
McCaleb-----	15	Somewhat limited Seepage Slope	0.70 0.08	Somewhat limited Piping	0.78
108: Simeroi-----	40	Very limited Slope Seepage	1.00 1.00	Somewhat limited Seepage	0.28
Bealand-----	40	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.10
109: Slide-----	80	Very limited Seepage Slope	1.00 0.68	Somewhat limited Seepage	0.55
110: Snowslide-----	80	Somewhat limited Seepage Slope	0.70 0.68	Somewhat limited Salinity Piping Seepage	0.50 0.40 0.07
111: Snowslide-----	85	Very limited Slope Seepage	1.00 0.70	Somewhat limited Salinity Seepage Piping	0.50 0.40 0.40
112: Snowslide-----	80	Somewhat limited Seepage	0.70	Somewhat limited Salinity Seepage Piping	0.50 0.40 0.40
Zer-----	15	Very limited Seepage	1.00	Somewhat limited Seepage	0.45
113: Snowslide-----	35	Very limited Slope Seepage	1.00 0.70	Somewhat limited Salinity Piping Seepage	0.50 0.40 0.07
Zer-----	30	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.45
Snowslide, low precipitation-----	20	Very limited Slope Seepage	1.00 0.70	Somewhat limited Salinity Seepage Piping	0.50 0.40 0.40

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
114: Soen-----	80	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.05
115: Soen-----	70	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.10
Justesen-----	25	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.82
116: Sparmo-----	75	Very limited Seepage	1.00	Very limited Piping	1.00
117: Sparmo-----	50	Very limited Seepage	1.00	Very limited Piping	1.00
Bluedome-----	35	Very limited Seepage Depth to cemented pan	1.00 0.99	Very limited Piping Thin layer	1.00 0.99
118: Sparmo-----	45	Very limited Seepage	1.00	Very limited Piping	1.00
Zer-----	45	Very limited Seepage	1.00	Somewhat limited Seepage	0.12
119: Splittop-----	50	Somewhat limited Depth to bedrock Seepage Slope	0.81 0.70 0.08	Somewhat limited Thin layer Piping	0.81 0.35
Atomic-----	30	Somewhat limited Seepage Depth to bedrock Slope	0.70 0.22 0.08	Somewhat limited Piping Thin layer	0.50 0.22
120: Splittop-----	50	Somewhat limited Depth to bedrock Seepage Slope	0.81 0.70 0.08	Somewhat limited Thin layer Piping	0.81 0.35
Coffee-----	30	Somewhat limited Seepage Depth to bedrock Slope	0.70 0.16 0.08	Very limited Piping Salinity Thin layer	1.00 0.50 0.16
121: Stan-----	95	Very limited Seepage	1.00	Somewhat limited Seepage	0.35

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
122: Stan-----	55	Very limited Seepage	1.00	Somewhat limited Seepage	0.35
Breitenbach-----	30	Very limited Seepage	1.00	Somewhat limited Seepage	0.85
123: Stan, loamy fine sand surface-----	70	Very limited Seepage	1.00	Somewhat limited Seepage	0.35
Stan-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.35
124: Starlite-----	80	Very limited Seepage	1.00	Very limited Piping	1.00
125: Techick-----	50	Very limited Seepage Slope	1.00 0.68	Somewhat limited Seepage	0.89
Soelberg-----	45	Very limited Seepage Slope	1.00 0.68	Somewhat limited Seepage	0.91
126: Techick-----	40	Very limited Seepage	1.00	Somewhat limited Seepage	0.89
Soelberg-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.91
Lesbut-----	15	Very limited Seepage	1.00	Somewhat limited Seepage	0.70
127: Techicknot-----	45	Somewhat limited Slope Seepage	0.68 0.54	Somewhat limited Piping	0.03
Atom-----	25	Somewhat limited Slope Seepage	0.92 0.04	Very limited Piping Salinity	1.00 0.50
Nargon-----	20	Somewhat limited Depth to bedrock Slope Seepage	0.99 0.92 0.04	Very limited Thin layer Piping	0.99 0.22
128: Tenno-----	50	Very limited Depth to bedrock Slope	1.00 0.68	Very limited Thin layer Piping	1.00 1.00

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
128: Splittop-----	25	Somewhat limited Depth to bedrock Seepage Slope	0.74 0.70 0.68	Somewhat limited Thin layer Piping	0.74 0.35
Lava flows-----	15	Very limited Depth to bedrock Slope	1.00 0.68	Not rated	
129: Tenno-----	45	Very limited Depth to bedrock	1.00	Very limited Thin layer Piping	1.00 1.00
Splittop-----	25	Somewhat limited Depth to bedrock Seepage	0.86 0.70	Somewhat limited Thin layer Piping	0.86 0.36
McCarey-----	20	Somewhat limited Depth to bedrock Seepage	0.99 0.70	Very limited Thin layer Piping	0.99 0.32
130: Thornock-----	45	Very limited Depth to bedrock Slope	1.00 0.68	Very limited Thin layer Piping	1.00 1.00
Portino-----	35	Somewhat limited Depth to bedrock Seepage Slope	0.88 0.70 0.68	Very limited Piping Thin layer	1.00 0.88
131: Thornock-----	50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Piping	1.00 1.00
Portino-----	25	Very limited Slope Depth to bedrock Seepage	1.00 0.88 0.70	Very limited Piping Thin layer	1.00 0.88
132: Thosand-----	50	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Piping Seepage	1.00 1.00 0.91 0.85
Sancrane-----	25	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.68

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
133: Truesdale-----	45	Very limited Seepage Depth to cemented pan Depth to bedrock	1.00 0.99 0.01	Very limited Piping Thin layer	1.00 0.99
Minidoka-----	40	Somewhat limited Depth to cemented pan Seepage	0.88 0.70	Very limited Piping Thin layer	1.00 0.88
134: Vitale-----	45	Very limited Slope Depth to bedrock Seepage	1.00 0.77 0.70	Very limited Large stones content Thin layer	1.00 0.77
Blackspar-----	35	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Large stones content Seepage	1.00 0.99 0.28
135: Whitecloud-----	75	Very limited Seepage	1.00	Somewhat limited Seepage	0.35
136: Whitecloud-----	55	Very limited Seepage	1.00	Somewhat limited Seepage	0.35
Sanfelipe-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.38
137: Zeale-----	70	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.20
Zeale, high precipitation-----	25	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.20
138: Zeale-----	70	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.20
Zeale, high precipitation-----	25	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.20
139: Zeale-----	35	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.20

## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
139: Coalkiln-----	25	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.38
Jimbee-----	25	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Seepage	1.00 0.10
140: Zeebar, cool-----	55	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.38
Zeebar-----	30	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.38
141: Zeebar-----	40	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage	0.38
Parvis-----	25	Very limited Slope Seepage	1.00 0.70	Somewhat limited Large stones content Seepage	0.79 0.05
Howcan-----	20	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.03	Very limited Large stones content Seepage Thin layer	1.00 0.18 0.03
142: Zer-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.45
143: Zer-----	85	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.45
144: Zer-----	95	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.45
145: Zer-----	80	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.40
146: Zer-----	45	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.45



## Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes and levees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
146: Snowslide-----	40	Very limited Slope Seepage	1.00 0.70	Somewhat limited Salinity Piping Seepage	0.50 0.40 0.07
147: Zer-----	65	Very limited Seepage	1.00	Somewhat limited Seepage	0.12
Whiteknob-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.97
148: Mooretown-----	45	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.95 0.40
Blackfoot-----	25	Somewhat limited Seepage	0.70	Somewhat limited Depth to saturated zone Piping Seepage	0.95 0.92 0.01
Borah-----	20	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.82
149: Drage, cool-----	85	Very limited Slope Seepage	1.00 0.70	Somewhat limited Seepage Large stones content	0.18 0.07
150: Vitale-----	45	Very limited Slope Depth to bedrock Seepage	1.00 0.99 0.70	Very limited Large stones content Thin layer	1.00 0.99
Blackspar-----	35	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Large stones content Seepage	1.00 0.89 0.28

## Engineering Soil Properties

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
1: Arco-----	0-4	Silt loam	CL, ML	A-6, A-7	0	0	100	100	96-100	91-98	33-45	13-18
	4-26	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	96-100	91-100	32-45	15-23
	26-60	Silt loam, gravelly loam, silty clay loam	CL	A-6, A-7	0	0	62-100	60-100	56-100	52-100	29-45	12-24
2: Atom-----	0-9	Silt loam	CL	A-6, A-7	0	0	90-100	90-100	86-100	81-99	31-42	12-19
	9-33	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	91-100	91-100	83-100	78-100	29-46	12-25
	33-60	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	91-100	90-100	89-100	85-100	35-46	17-25
3: Atom-----	0-3	Silt loam	CL	A-6, A-7	0	0	90-100	90-100	86-100	81-99	31-42	12-19
	3-10	Silty clay loam	CL	A-6, A-7	0	0	90-100	90-100	86-100	82-98	38-45	19-23
	10-29	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	91-100	91-100	83-100	78-100	29-46	12-25
	29-60	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	91-100	90-100	89-100	85-100	35-46	17-25
4: Atom-----	0-3	Silt loam	CL	A-6, A-7	0	0	90-100	90-100	86-100	81-99	31-42	12-19
	3-10	Silty clay loam	CL	A-6, A-7	0	0	90-100	90-100	86-100	82-98	38-45	19-23
	10-29	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	91-100	91-100	81-100	77-100	29-46	12-25
	29-60	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	91-100	90-100	89-100	85-100	35-46	17-25
Splittop-----	0-3	Silt loam	CL	A-6	0	0	76-100	75-100	72-100	67-96	29-39	12-17
	3-30	Loam, silt loam	CL	A-6	0	0	76-100	75-100	72-100	62-90	30-39	13-19
	30-34	Loam, silt loam	CL	A-6	0	0	76-100	75-100	72-100	58-84	29-38	13-19
	34-44	Unweathered bedrock			---	---	---	---	---	---	---	---

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
5: Bealand-----	0-5	Gravelly loam	CL, GC-GM, GC	A-4, A-2, A-6	0	0	61-75	60-74	48-70	34-52	22-39	6-17
	5-10	Gravelly loam, very gravelly loam, gravelly silt loam	GC, CL, GC-GM	A-4, A-6, A-2	0	0	37-76	35-75	29-70	20-51	21-33	6-13
	10-39	Very gravelly loam, very gravelly silt loam	GC, GC-GM	A-2	0	0	39-53	36-51	30-47	21-34	20-30	6-12
	39-60	Very gravelly loam, very gravelly silt loam	GC-GM, GC	A-2	0	0	39-53	36-51	30-47	21-34	20-30	6-12
Zeale-----	0-14	Gravelly loam	GM, ML, GC	A-6, A-4	0-5	0-5	55-81	53-81	46-72	35-52	29-37	9-12
	14-60	Very gravelly loam	GC	A-2, A-4, A-6	0-5	0-24	34-66	31-64	26-60	19-45	26-39	9-17
6: Blackfoot-----	0-7	Loam	CL	A-4, A-6	0	0	91-100	90-100	77-92	55-67	27-39	10-15
	7-13	Loam	CL	A-6	0	0	91-100	91-100	77-93	56-70	28-40	12-18
	13-26	Silty clay loam, clay loam	CL	A-6, A-7	0	0	91-100	91-100	86-100	76-92	39-49	21-27
	26-48	Loam, silt loam	CL	A-6	0	0	91-100	91-100	77-93	56-70	28-40	12-18
	48-60	Silty clay loam, clay loam	CL	A-6, A-7	0	0	91-100	91-100	86-100	76-92	39-49	21-27
7: Bluedome-----	0-3	Loam	CL-ML, CL, SC-SM	A-4	0	0	78-100	77-100	65-90	45-65	21-30	4-9
	3-36	Loam, gravelly loam	CL, GC-GM, GC	A-4, A-2	0	0-8	58-92	56-92	47-83	33-59	20-28	6-10
	36-40	Cemented material			---	---	---	---	---	---	---	---
	40-60	Extremely gravelly sandy loam	GP, GP-GC	A-1	0	0-15	15-31	11-28	8-23	4-12	16-25	2-7
8: Bluedome-----	0-11	Loam	CL-ML, CL, SC-SM	A-4	0	0	78-100	77-100	65-90	45-65	21-30	4-9
	11-28	Loam, gravelly loam	CL, GC-GM	A-4, A-2	0	0	59-92	58-92	49-83	34-59	20-28	6-10
	28-31	Cemented material			---	---	---	---	---	---	---	---
	31-60	Extremely gravelly sandy loam	GP, GP-GC	A-1, A-2	0	0-15	15-31	11-28	8-23	4-12	16-25	2-7
McCaleb-----	0-12	Silt loam	CL	A-4, A-6	0	0	77-100	76-100	69-95	56-78	26-33	9-12
	12-46	Loam, gravelly loam	CL, SC	A-4, A-6	0	0	79-100	78-100	67-90	47-65	24-30	9-12
	46-60	Loam, silt loam, gravelly loam	CL, GC	A-2, A-4, A-6	0	0	59-84	57-84	49-75	34-54	24-30	9-12

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
9: Bockston-----	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	91-100	90-100	80-97	64-79	22-35	6-12
	6-14	Loam	CL, SC-SM	A-4, A-6	0	0	83-100	82-100	67-94	47-69	22-36	6-15
	14-22	Silt loam	CL-ML, CL	A-6, A-4	0	0	82-100	82-100	72-97	58-79	22-35	6-12
	22-48	Loam	SC-SM, CL	A-4, A-6	0	0	83-100	83-100	69-92	49-67	22-32	7-13
	48-60	Gravelly fine sandy loam	GM, SC, SC-SM	A-2, A-4	0	0	59-77	57-76	49-74	23-39	16-27	2-10
10: Breitenbach-----	0-4	Gravelly loam	GC-GM, GC	A-2, A-4, A-6	0	0-6	54-74	52-72	44-67	31-49	24-35	7-13
	4-12	Gravelly loam, gravelly sandy loam, sandy loam, loam	GC-GM, SC	A-4, A-2, A-6	0	0	50-81	47-81	36-66	23-43	24-33	7-12
	12-41	Extremely gravelly sandy loam, very gravelly sandy loam, extremely gravelly loam, very gravelly loam	GW-GC, GC	A-2, A-1	0	0-18	18-50	15-48	11-38	5-20	21-29	6-10
	41-60	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand	GP, GP-GC	A-1	0	0-26	16-31	12-28	7-18	3-8	0-21	NP-4
11: Breitenbach-----	0-3	Gravelly loamy sand	SM, SC-SM	A-2	0	0	71-78	70-77	54-64	15-20	18-26	2-6
	3-17	Gravelly loam, gravelly sandy loam, sandy loam, loam	GC-GM, CL, SC	A-4, A-2, A-6	0	0	50-81	47-81	40-73	28-53	24-33	7-12
	17-30	Extremely gravelly sandy loam, very gravelly sandy loam, extremely gravelly loam, very gravelly loam	GP-GC, GC	A-2, A-1	0	0-19	18-49	14-46	10-37	5-19	21-29	6-10
	30-34	Extremely gravelly sandy loam, very gravelly sandy loam, extremely gravelly loam, very gravelly loam	GC, GP-GC	A-2, A-1	0	0-18	18-50	15-48	11-38	5-20	21-29	6-10
	34-60	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand	GP, GP-GC	A-1	0	0-26	16-31	12-28	9-23	3-9	0-21	NP-4

Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
11: Stan-----	0-7	Loamy fine sand	SM, SC-SM	A-2, A-4	0	0	79-100	78-100	72-98	25-38	0-25	NP-4
	7-15	Loam, loamy fine sand	SC-SM, SM	A-2, A-4	0	0-3	79-100	79-100	71-99	22-37	0-26	NP-6
	15-24	Fine sandy loam, gravelly loamy fine sand, gravelly sandy loam, gravelly loam	SC-SM, GM	A-1, A-4	0	0	56-100	54-100	47-95	22-49	17-26	2-7
	24-40	Fine sandy loam, gravelly loamy fine sand, gravelly sandy loam, gravelly loam	SC-SM, SM, GM	A-1, A-2, A-4	0	0	55-100	53-100	48-98	13-32	0-23	NP-6
	40-60	Very gravelly loamy sand	GC-GM, GP-GM	A-1	0	0-15	40-62	37-60	28-50	10-20	0-21	NP-4
12: Buist-----	0-5	Gravelly loam	GC-GM, ML, GC	A-2, A-4, A-6	0	0-9	51-81	49-81	41-73	29-53	26-37	7-12
	5-20	Very gravelly loam	GC-GM, GC	A-2, A-4, A-6	0	0-18	40-58	37-56	31-51	22-38	24-37	7-13
	20-33	Very gravelly loam, extremely gravelly sandy loam	GM, GC	A-1, A-2, A- 4, A-6	0	8-16	27-60	24-59	20-55	14-39	18-31	3-12
	33-60	Very gravelly loam, extremely gravelly sandy loam	GP-GM, GC-GM	A-1, A-2	0	15-29	24-73	21-72	15-57	7-29	0-23	NP-6
13: Bunting-----	0-10	Gravelly loam	GC-GM, CL, SC	A-4, A-6	0	0-8	54-83	52-82	43-77	35-56	26-39	7-15
	10-18	Gravelly loam, very gravelly loam	GC, GC-GM	A-2, A-4	0	0-16	38-64	35-62	30-56	21-40	24-31	7-10
	18-22	Very gravelly sandy loam, extremely gravelly loam, extremely gravelly sandy loam	GC-GM, GC, GP-GC	A-2, A-1	0	0-15	27-62	24-60	18-48	10-26	21-27	6-8
	22-60	Stratified very cobbly coarse sand to extremely gravelly loamy coarse sand	GM, GP-GM, GC-GM	A-1	0-7	7-34	23-62	19-60	---	---	10-20	NP-5
14: Coffee-----	0-7	Silt loam	CL	A-4, A-6	0	0	82-100	82-100	72-99	60-84	27-40	9-18
	7-25	Silt loam	CL	A-6, A-4	0-5	0-5	82-100	82-100	70-100	58-86	25-40	9-19
	25-48	Silt loam, silty clay loam	CL	A-6, A-7	0-10	0-19	78-100	77-100	67-100	60-96	26-44	10-23
	48-58	Unweathered bedrock			---	---	---	---	---	---	---	---

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
15: Coffee-----	0-7	Silt loam	CL	A-4, A-6	0	0	82-100	82-100	72-99	60-84	27-40	9-18
	7-25	Silt loam	CL	A-6, A-4	0-5	0-5	82-100	82-100	70-100	58-86	25-40	9-19
	25-48	Silt loam, silty clay loam	CL	A-6, A-7	0-10	0-19	78-100	77-100	67-100	60-96	26-44	10-23
	48-58	Unweathered bedrock			---	---	---	---	---	---	---	---
Nargon-----	0-5	Loam	CL, SC	A-6	0-5	0-9	82-100	81-100	69-93	49-69	28-39	11-17
	5-15	Clay loam, silt loam	CL	A-6, A-7	0	0-5	82-100	82-100	67-93	51-72	32-43	13-21
	15-22	Loam, stony loam, gravelly silt loam	CL, GC	A-6	2-18	3-18	65-96	63-96	54-89	39-66	27-36	12-17
	22-32	Unweathered bedrock			---	---	---	---	---	---	---	---
16: Coffee-----	0-7	Silt loam	CL	A-4, A-6	0	0	82-100	82-100	72-99	60-84	27-40	9-18
	7-25	Silt loam	CL	A-6, A-4	0-5	0-5	82-100	82-100	70-100	58-86	25-40	9-19
	25-48	Silt loam, silty clay loam	CL	A-6, A-7	0-10	0-19	78-100	77-100	67-100	60-96	26-44	10-23
	48-58	Unweathered bedrock			---	---	---	---	---	---	---	---
Nargon-----	0-5	Loam	CL, SC	A-6	0-5	0-9	82-100	81-100	69-93	49-69	28-39	11-17
	5-15	Clay loam, silt loam	CL	A-6, A-7	0	0-5	82-100	82-100	67-93	51-72	32-43	13-21
	15-22	Loam, stony loam, gravelly silt loam	CL, GC	A-6	2-18	3-18	65-96	63-96	54-89	39-66	27-36	12-17
	22-32	Unweathered bedrock			---	---	---	---	---	---	---	---
Atom-----	0-3	Silt loam	CL	A-6, A-7	0	0	90-100	90-100	86-100	81-99	31-42	12-19
	3-10	Silty clay loam	CL	A-6, A-7	0	0	90-100	90-100	86-100	82-98	38-45	19-23
	10-29	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	91-100	91-100	83-100	78-100	29-46	12-25
	29-60	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	91-100	90-100	89-100	85-100	35-46	17-25
17: Cronks-----	0-7	Cobbly loam	CL, GC	A-6	0	17-39	66-90	64-90	56-83	41-62	31-39	13-17
	7-19	Very cobbly clay loam	CH, GC	A-7	0	25-43	50-78	48-77	43-77	35-67	46-64	25-36
	19-29	Very cobbly clay loam	CL, GC	A-6, A-7, A-2	0	24-48	50-88	48-88	40-86	30-69	31-46	13-25
	29-60	Very cobbly clay loam	CL, GC	A-6, A-7, A-2	0-5	24-48	52-88	49-88	41-86	31-69	31-46	13-25

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
17: Dacont-----	0-4	Gravelly loam	ML, GC, SC	A-4, A-2, A-6	0-5	0-5	50-81	48-81	41-73	29-54	29-39	9-13
	4-10	Very gravelly loam	GC	A-2, A-6	0-5	2-40	46-77	44-76	38-71	28-54	32-40	14-19
	10-26	Very gravelly loam, very gravelly sandy loam	GC, GC-GM	A-2, A-1, A-4, A-6	2-5	2-33	44-77	41-76	34-70	24-50	21-33	6-12
	26-40	Very gravelly sandy loam, very gravelly loam	GC, GC-GM	A-2, A-1, A-4	1-5	1-32	39-70	36-69	31-62	21-44	20-27	6-10
	40-60	Very gravelly sandy loam, very cobbly loam	GM, GC-GM	A-1, A-4, A-2	0-9	1-25	40-71	37-70	31-63	21-45	16-25	2-7
18: Crooked Creek---	0-6	Silt loam	CL	A-6	0	0	100	100	92-96	77-81	31-40	13-16
	6-20	Silt loam	CL	A-6	0	0	100	100	93-98	79-84	34-40	15-19
	20-50	Silty clay	CH, CL	A-7	0	0	100	100	92-100	88-98	46-57	25-33
	50-60	Loam	CL	A-6	0	0	82-100	82-100	71-91	52-68	29-35	13-16
19: Cryoborolls-----	0-4	Very cobbly loam	GC, GC-GM, ML	A-2, A-4, A- 7, A-6	0-17	25-39	45-78	42-77	34-74	24-55	26-47	7-18
	4-54	Extremely cobbly loam	GC, GP-GC	A-2, A-6, A-4, A-7	0-17	32-44	17-53	14-51	11-51	8-41	24-49	7-24
	54-60	Extremely cobbly loamy coarse sand	SC, GP, GP-GC	A-1, A-2, A-6, A-4	0-15	35-57	19-83	15-83	6-53	2-26	17-40	2-19
Rubble land-----	0-60	Fragmental material			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
20: Darlington-----	0-14	Very gravelly loam	GC	A-2	0	0-10	33-47	30-45	26-41	18-30	27-36	9-15
	14-21	Gravelly loam, very gravelly loam	GC	A-2, A-4, A-6	0	0-10	35-65	32-64	27-58	19-43	26-36	9-15
	21-33	Very gravelly sandy loam, gravelly loam, very gravelly loam	GC	A-6, A-2, A-4	0	0-10	35-65	32-64	27-58	19-43	26-36	9-15
	33-60	Extremely gravelly loamy sand, very gravelly loamy sand, extremely gravelly sand	GP-GM	A-1	0	0-18	22-41	18-38	14-31	5-11	0-20	NP-2

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
20: Lesbut-----	0-3	Gravelly loam	GC, GC-GM	A-4, A-6, A-2	0	0	52-72	50-71	42-66	29-49	24-36	7-15
	3-13	Gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	0-6	52-72	50-71	42-66	29-49	24-36	7-15
	13-19	Very gravelly sandy loam	GC, GC-GM	A-2	0	2-19	35-57	32-55	23-45	14-30	21-33	4-12
	19-60	Extremely cobbly coarse sand, extremely cobbly sand, extremely gravelly coarse sand, extremely gravelly loamy coarse sand, extremely gravelly sand, extremely gravelly loamy sand	GW, GP-GM	A-1	0	18-52	12-39	8-36	6-29	2-11	0-19	NP-2
21: Denied access---	---	---	---	---	---	---	---	---	---	---	---	---
22: Deuce-----	0-2	Stony silt loam	CL	A-4, A-6	9-18	0-18	78-96	77-95	69-94	57-80	27-39	9-17
	2-11	Silt loam, cobbly loam, clay loam	CL, GC	A-4, A-6	0-9	0-33	50-100	48-100	42-100	35-88	26-40	10-21
	11-19	Silt loam, stony clay loam, clay loam	CL, GC	A-6, A-7	0-32	0-32	51-100	49-100	43-100	36-89	30-45	12-23
	19-29	Unweathered bedrock			---	---	---	---	---	---	---	---
Nargon-----	0-5	Silt loam	CL	A-6	0-5	0-9	82-100	81-100	73-97	61-82	29-39	12-17
	5-15	Clay loam, silt loam	CL	A-6, A-7	0	0-5	82-100	82-100	67-93	51-72	32-43	13-21
	15-22	Loam, stony loam, gravelly silt loam	CL, GC	A-6	2-18	3-18	65-96	63-96	54-89	39-66	27-36	12-17
	22-32	Unweathered bedrock			---	---	---	---	---	---	---	---
Lava flows-----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
23: Deuce-----	0-3	Stony silt loam	CL	A-4, A-6	9-18	0-18	78-96	77-95	69-94	57-80	27-39	9-17
	3-12	Silt loam, cobbly loam, clay loam	CL, GC	A-6, A-7	0-9	0-33	50-100	48-100	38-94	35-73	26-41	10-21
	12-19	Silt loam, stony clay loam, clay loam	CL, GC	A-6, A-7	0-17	5-9	54-100	52-100	42-95	35-74	30-45	12-23
	19-29	Unweathered bedrock			---	---	---	---	---	---	---	---



## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
23: Nargon-----	0-2	Silt loam	CL	A-6	0-5	0-9	82-100	81-100	73-97	61-82	29-39	12-17
	2-7	Clay loam, silt loam	CL	A-6, A-7	0	0-5	82-100	82-100	67-93	51-72	32-43	13-21
	7-21	Loam, stony loam, gravelly silt loam	CL, GC	A-6	2-18	3-18	65-96	63-96	54-89	39-66	27-36	12-17
	21-31	Unweathered bedrock			---	---	---	---	---	---	---	---
Lava flows-----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
24: Dickeypeak-----	0-2	Silty clay loam	CL	A-7	0	0	100	100	97-100	85-88	40-46	20-23
	2-10	Loam	CL	A-6, A-7	0	0	83-100	82-100	73-98	56-77	34-45	17-24
	10-50	Loam	CL	A-6	0	0	83-100	82-100	69-93	50-69	25-35	10-16
	50-70	Gravelly fine sandy loam	GC-GM, SC, GC	A-2	0	0	52-76	50-75	45-72	20-35	20-30	6-12
Bigrant-----	0-8	Silt loam	CL, ML	A-6, A-7	0	0	100	100	91-98	78-85	33-45	13-18
	8-23	Silty clay loam, silt loam	ML, CL	A-7, A-6	0	0	100	100	91-98	78-85	33-45	13-18
	23-35	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	86-100	75-92	31-48	13-26
	35-60	Clay	CL, CH	A-7	0	0	83-100	82-100	74-100	60-83	48-59	28-36
25: Donkehill-----	0-9	Very gravelly loam	GM, GC	A-2, A-4, A-6	0-8	0-16	39-66	36-64	31-58	22-42	27-40	8-12
	9-16	Very gravelly clay loam, very cobbly clay loam	GC	A-2, A-6, A-7	0-5	0-29	35-73	32-72	28-67	20-49	39-50	19-24
	16-19	Very gravelly clay loam, very cobbly clay loam	GC	A-2, A-6, A-7	0-8	0-29	35-73	32-72	28-67	20-49	39-50	19-24
	19-29	Unweathered bedrock			---	---	---	---	---	---	---	---
26: Dredge-----	0-12	Loam	CL, SC, ML	A-6, A-7	0	0	76-100	75-100	64-92	46-69	33-45	12-17
	12-46	Loam	CL, SC	A-6	0	0	76-100	75-100	64-92	46-69	30-40	12-17
	46-60	Loam	CL, SC	A-6	0	0	76-100	75-100	64-92	46-69	30-39	12-17

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
27: Elbow-----	0-5	Gravelly loam	GC, GC-GM	A-4, A-6, A-2	0	0	47-72	45-71	37-65	26-48	26-37	7-13
	5-17	Gravelly loam, very gravelly loam	GC, GC-GM, CL	A-2, A-4, A-6	0	0-10	44-73	41-72	35-67	26-51	24-35	7-13
	17-23	Extremely gravelly sandy loam	GP-GC, GP	A-1, A-2	0	0-18	15-31	11-28	8-22	4-12	21-29	6-10
	23-31	Cemented material			---	---	---	---	---	---	---	---
	31-35	Extremely cobbly coarse sandy loam	GC-GM, GP-GM	A-1	0-18	18-52	16-58	13-57	8-38	5-24	0-21	NP-4
	35-60	Extremely cobbly coarse sand, extremely cobbly sand	GP, GP-GM	A-1	0	18-52	13-46	10-44	7-35	1-7	0-19	NP-2
28: Fallert-----	0-2	Gravelly loam	GC, GC-GM, CL	A-4, A-2, A-6	0	0-9	52-83	50-82	41-77	29-57	24-37	7-16
	2-8	Very gravelly loam, gravelly loam	GC, GC-GM	A-2, A-6, A-4	0	0-16	34-74	31-73	26-67	18-48	23-31	7-12
	8-19	Very gravelly sandy loam	GC, GP-GC	A-1, A-2	0	4-15	36-51	33-49	24-38	12-20	21-28	6-10
	19-60	Extremely gravelly loamy coarse sand, very gravelly loamy sand, extremely gravelly loamy sand	GP, GC-GM, GP-GC	A-1	0	4-14	19-52	15-50	12-41	3-13	16-23	2-6
29: Fallert, dry----	0-3	Gravelly loam	GC, GC-GM, CL	A-4, A-2, A-6	0	0-5	52-76	50-75	41-70	29-52	24-37	7-16
	3-12	Very gravelly loam, gravelly loam	GC, GC-GM	A-2, A-6, A-4	0	0-16	34-74	31-73	26-67	18-48	23-31	7-12
	12-19	Very gravelly sandy loam	GC, GP-GC	A-1, A-2	0	4-15	36-51	33-49	24-38	12-20	21-28	6-10
	19-60	Extremely gravelly loamy coarse sand, very gravelly loamy sand, extremely gravelly loamy sand	GP, GP-GC	A-1	0	4-14	19-52	15-50	8-29	3-12	16-23	2-6
30: Fandow-----	0-6	Gravelly loam	GC-GM, GC	A-2, A-4, A-6	0	0-5	50-75	48-74	40-68	29-50	24-35	7-13
	6-19	Very gravelly sandy loam	GP-GC, GC	A-2	0	0-17	31-59	28-57	20-46	10-25	23-33	7-13
	19-20	Cemented material			---	---	---	---	---	---	---	---
	20-60	Extremely gravelly loamy coarse sand, extremely gravelly loamy sand	GP, GP-GC, GP-GM	A-1	0	8-29	21-40	17-37	13-30	4-10	0-21	NP-4

Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
31: Fulwider, high precipitation--	0-7	Gravelly silt loam	CL, GM, CL-ML	A-4	0	0-9	51-82	49-81	43-78	35-63	20-31	3-10
	7-12	Very gravelly silt loam, very gravelly loam, extremely gravelly sandy loam	CL, GM, GC-GM	A-1, A-4	0	5-23	22-66	19-65	16-63	13-51	0-28	NP-10
	12-17	Cemented material			---	---	---	---	---	---	---	---
	17-60	Extremely gravelly loam, extremely cobbly loamy sand	GP-GM, GC-GM	A-1	0-8	15-42	16-50	13-48	11-43	7-31	16-24	2-7
Fulwider, low precipitation--	0-3	Gravelly loam	GM, CL, SC-SM	A-4	0	0-8	52-83	50-82	42-75	35-54	20-31	3-10
	3-14	Very gravelly silt loam, very gravelly loam, extremely gravelly sandy loam	GC, GP-GM, GC-GM	A-1, A-4, A-2	0	5-23	22-66	19-65	15-60	10-43	0-28	NP-10
	14-17	Cemented material			---	---	---	---	---	---	---	---
	17-60	Extremely gravelly loam, extremely cobbly loamy sand	GP-GM, GC-GM	A-1	0-9	15-42	16-50	13-48	11-43	7-31	16-24	2-7
Fulwider-----	0-2	Gravelly silt loam	GM, CL-ML	A-4	0	0-7	56-85	54-84	48-79	38-63	20-27	3-7
	2-6	Extremely gravelly sandy loam, very gravelly silt loam, very gravelly loam	GC, GM, GC-GM	A-4, A-1, A-2	0	7-21	31-70	28-68	23-63	15-46	0-28	NP-10
	6-10	Extremely gravelly sandy loam, very gravelly silt loam, very gravelly loam	GP-GM, GC, GC-GM	A-1, A-4	0	7-21	25-70	22-68	17-63	12-46	0-28	NP-10
	10-15	Cemented material			---	---	---	---	---	---	---	---
	15-60	Extremely gravelly loam, extremely cobbly loamy sand	GP, GP-GC	A-1	0-7	14-38	18-54	15-52	10-44	1-12	0-27	NP-10

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
32: Goosebury, high precipitation--	0-5	Very gravelly loam	GC	A-2	0	0-11	49-58	28-58	24-53	17-35	27-36	9-15
	5-11	Very gravelly loam, gravelly loam	CL, GC-GM, GC	A-6, A-2, A-4	0-5	0-10	58-79	29-79	24-73	17-54	22-32	7-15
	11-41	Extremely gravelly sandy loam, very gravelly sandy loam	GC, GP, GW-GC	A-1, A-2	0	0-11	48-69	12-69	9-55	4-30	21-30	6-12
	41-60	Extremely gravelly loamy coarse sand, extremely gravelly loamy sand	GP-GC, GP, SP	A-1	0	0-23	45-54	11-45	6-27	2-12	16-25	2-7
33: Goosebury-----	0-5	Very gravelly loam	GC	A-2	0	0-11	49-58	28-58	24-53	17-35	27-36	9-15
	5-11	Very gravelly loam, gravelly loam	CL, GC-GM, GC	A-6, A-2, A-4	0-5	0-10	58-79	29-79	24-73	17-54	22-32	7-15
	11-41	Extremely gravelly sandy loam, very gravelly sandy loam	GP, GC, GW-GC	A-1, A-2	0	0-11	48-69	12-69	9-55	4-30	21-30	6-12
	41-60	Extremely gravelly loamy coarse sand, extremely gravelly loamy sand	GP, GP-GC, SP	A-1	0	0-23	45-54	11-45	6-27	2-12	16-25	2-7
34: Goosebury, low precipitation--	0-4	Gravelly loam	GC-GM, CL, GC	A-4, A-2, A-6	0	0-9	50-81	48-81	40-74	28-54	24-35	7-13
	4-12	Very gravelly loam, gravelly loam	GC, GC-GM, CL	A-2, A-4, A-6	0	0-9	37-82	34-82	28-76	20-56	22-32	7-15
	12-60	Extremely gravelly sandy loam, very gravelly sandy loam	GC, GP-GC	A-2	0	0-25	16-57	12-55	9-44	4-24	21-30	6-12
Goosebury, high precipitation--	0-8	Gravelly loam	GC-GM, CL, GC	A-4, A-2, A-6	0	0-9	50-81	48-81	40-74	28-54	24-35	7-13
	8-24	Very gravelly loam, gravelly loam	GC, GC-GM, CL	A-2, A-4, A-6	0	0-9	37-82	34-82	28-76	20-56	22-32	7-15
	24-44	Extremely gravelly sandy loam, very gravelly sandy loam	GP, GC	A-2	0	0-9	16-49	12-47	9-38	4-20	21-30	6-12
	44-60	Extremely gravelly loamy coarse sand, extremely gravelly loamy sand	GP, GP-GC	A-1	0-9	0-25	15-37	12-35	6-21	2-9	16-25	2-7

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
35:												
Hagenbarth-----	0-9	Clay loam	CL, MH, ML	A-7	0	0	84-100	84-100	74-94	58-75	43-53	18-22
	9-20	Loam, clay loam	CL	A-6, A-7	0	0	84-100	84-100	72-93	53-71	33-45	13-19
	20-41	Clay loam	CL, CH	A-7	0	0	78-100	77-100	67-94	52-74	40-51	19-25
	41-60	Clay loam	CH, CL	A-7	0	0	78-100	77-100	67-94	52-74	40-51	19-25
Howcan-----	0-4	Loam	SC-SM, ML	A-4, A-7, A-6	2-6	2-19	80-96	80-96	64-91	45-68	25-47	6-17
	4-10	Extremely cobbly loam	GP-GC, GC	A-2, A-6, A-4	0-19	35-58	25-66	22-65	18-62	12-46	22-40	6-17
	10-38	Extremely stony loam	GC, CL	A-2, A-6	26-46	18-40	40-81	37-80	32-74	24-55	30-39	13-17
	38-54	Extremely stony sandy loam	GC	A-2, A-4, A-6	32-44	17-50	41-100	39-100	28-81	14-43	24-35	9-16
	54-64	Unweathered bedrock			---	---	---	---	---	---	---	---
Jonda-----	0-4	Gravelly loam	GC	A-2, A-4, A-6	0-7	0-11	49-69	47-68	39-64	28-47	27-40	9-17
	4-21	Extremely cobbly clay loam, very cobbly clay loam, extremely gravelly clay loam, very gravelly clay loam	GC, GP-GC	A-2, A-7	0-6	20-77	17-69	14-68	12-64	9-50	40-46	21-25
	21-60	Extremely cobbly sandy loam, extremely cobbly loam, extremely gravelly sandy loam, extremely gravelly loam	GC, GP, GP-GC	A-1, A-2	0-10	28-73	14-79	11-78	8-63	4-34	20-30	6-12
36:												
Hal-----	0-6	Gravelly loam	GM, CL, GC-GM	A-2, A-4	0	0	45-66	43-65	41-65	31-52	20-31	3-10
	6-12	Gravelly loam	GM, CL, GC-GM	A-2, A-4	0	0	45-66	43-65	41-65	31-52	18-27	3-10
	12-24	Gravelly loam	GM, CL, GC-GM	A-2, A-4	0	0	45-66	43-65	41-65	31-52	18-27	3-10
	24-40	Gravelly loam	GM, CL, GC-GM	A-2, A-4	0	0	48-68	46-67	44-67	33-54	18-27	3-10
	40-60	Extremely gravelly loamy coarse sand	GP-GC, GW	A-1	0	0	8-23	4-19	2-11	1-5	0-23	NP-6
Moonville-----	0-7	Loam	ML, OH, MH	A-4, A-6, A-7	0	0	76-100	75-100	69-100	53-83	32-67	8-17
	7-31	Loam	CL	A-4, A-7, A-6	0	0	76-100	75-100	69-100	53-83	28-42	9-18
	31-60	Loam	CL	A-4, A-6	0	0	76-100	75-100	69-100	53-83	25-38	9-18
37:												
Hondoho-----	0-6	Gravelly loam	CL, GC-GM, SC	A-4, A-6	0	0-17	60-74	58-73	48-69	35-51	26-40	7-17
	6-10	Gravelly loam	GC-GM, CL, SC	A-4, A-6	0	0-17	60-74	58-73	48-69	35-51	26-40	7-17
	10-60	Very gravelly loam	GC, CL	A-2, A-6	0-16	8-37	34-79	31-78	27-74	20-56	27-39	12-19

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
38: Howcan-----	0-4	Loam	SC-SM, ML	A-4, A-7, A-6	2-6	2-19	80-96	80-96	64-91	45-68	25-47	6-17
	4-10	Extremely cobbly loam	GP-GC, GC	A-2, A-6	0-19	19-58	22-66	19-65	15-62	11-46	22-40	6-17
	10-38	Extremely stony loam	GC	A-2, A-6	9-46	18-46	24-81	21-80	18-74	14-55	30-39	13-17
	38-54	Extremely stony sandy loam	GP-GC, SC, GC	A-2, A-6	9-38	17-50	26-100	22-100	16-81	8-43	24-35	9-16
	54-64	Unweathered bedrock			---	---	---	---	---	---	---	---
Hutchley-----	0-4	Gravelly loam	GC	A-4, A-6	0-10	6-19	57-72	55-71	46-67	35-50	27-39	9-17
	4-11	Very cobbly clay loam	GC, CL	A-2, A-6, A-7	0-8	8-38	38-79	35-78	30-74	23-58	38-49	19-25
	11-21	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
39: Howcan-----	0-4	Loam	SC-SM, ML	A-4, A-7, A-6	2-6	2-19	80-96	80-96	64-91	45-68	25-47	6-17
	4-10	Extremely cobbly loam	GC-GM, GC	A-2, A-6	0-19	19-58	22-66	19-65	15-62	11-46	22-41	6-17
	10-38	Extremely stony loam	CL, GC	A-2, A-6	26-46	18-46	36-81	33-80	29-74	21-55	30-39	13-17
	38-54	Extremely stony sandy loam	GP-GC, SC, GC	A-2, A-6, A-4	25-38	17-50	37-100	35-100	25-81	12-43	24-35	9-16
	54-64	Unweathered bedrock			---	---	---	---	---	---	---	---
Zeebar-----	0-3	Gravelly loam	CL, GC, SC	A-6, A-7	0-5	0-5	58-83	57-83	48-77	35-57	31-42	11-18
	3-19	Gravelly loam, very gravelly loam	CL, GC	A-2, A-7, A-6	0	0-8	43-83	41-82	35-77	26-59	29-41	12-19
	19-41	Very gravelly clay loam, extremely gravelly clay loam	GC, GP-GC	A-2, A-6, A-7	8-15	0	22-67	18-66	15-61	11-47	30-41	13-21
	41-60	Extremely gravelly loam	GP-GC, GC	A-2	0-8	8-29	16-47	12-44	10-42	7-31	24-36	9-17
Hutchley-----	0-4	Gravelly loam	CL, GC	A-4, A-6	0-10	6-27	57-89	55-88	46-83	35-62	27-39	9-17
	4-11	Very cobbly clay loam	GC, CL	A-2, A-6, A-7	0-8	24-38	47-79	45-78	39-74	30-58	38-49	19-25
	11-21	Unweathered bedrock			---	---	---	---	---	---	---	---
40: Huddle-----	0-2	Gravelly loam	GM, CL, GC-GM	A-4	0	0	53-67	50-66	48-66	36-53	20-31	3-10
	2-7	Loam	GM, CL, CL-ML	A-4	0	0	69-87	68-87	65-87	49-69	20-31	3-10
	7-19	Loam	CL, CL-ML	A-4, A-6	0	0	69-87	68-87	65-87	50-69	22-30	7-12
	19-39	Loam	CL, CL-ML	A-4, A-6	0	0	69-87	68-87	65-87	50-69	22-30	7-12
	39-50	Loam	CL	A-6	0	0-13	76-87	74-87	71-87	57-74	29-39	12-19
	50-60	Unweathered bedrock			---	---	---	---	---	---	---	---
Moonville-----	0-7	Loam	ML, OH, MH	A-4, A-7	0	0	76-100	75-100	69-100	53-83	32-67	8-17
	7-31	Loam	CL	A-4, A-7, A-6	0	0	76-100	75-100	69-100	53-83	28-42	9-18
	31-60	Loam	CL	A-4, A-6	0	0	76-100	75-100	69-100	53-83	25-38	9-18

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
41:												
Ike-----	0-2	Gravelly loam	CL, GC, GC-GM	A-2, A-6, A-4	0-9	6-18	54-80	52-79	42-76	29-57	21-39	6-17
	2-7	Very gravelly silt loam	GC-GM, GC	A-6, A-2, A-4	0-9	9-32	35-60	32-58	28-57	22-47	20-33	6-13
	7-18	Extremely cobbly silt loam	GP-GC, GC, CL	A-2, A-6, A-4	0-23	30-54	17-83	13-82	12-80	9-66	20-33	6-13
	18-28	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
Jimbee-----	0-7	Gravelly loam	GC, GC-GM, CL	A-4, A-6, A-2	0	0-9	51-76	49-75	41-70	29-51	24-36	7-15
	7-17	Very gravelly loam	GC, GC-GM	A-2, A-6, A-4	0-25	0-17	33-64	30-63	25-58	18-43	23-36	7-15
	17-27	Unweathered bedrock			---	---	---	---	---	---	---	---
42:												
Ike-----	0-2	Gravelly loam	GC-GM, GC, CL	A-4, A-2, A-6	0-9	6-18	54-80	52-79	42-76	29-57	21-39	6-17
	2-7	Very gravelly silt loam	GC-GM, GC	A-6, A-2, A-4	0-9	9-32	35-60	32-58	28-57	22-47	20-33	6-13
	7-18	Extremely cobbly silt loam	GP-GC, GC, CL	A-2, A-6, A-4	0-23	30-54	17-83	13-82	12-80	9-66	20-33	6-13
	18-28	Unweathered bedrock			---	---	---	---	---	---	---	---
Simeroi-----	0-4	Gravelly silt loam	GC-GM, CL	A-4, A-6	0	0	55-78	53-77	46-75	37-62	22-35	6-13
	4-26	Very gravelly loam	GC, GC-GM	A-2	0	0-8	36-53	33-51	27-47	19-34	22-35	6-13
	26-60	Very gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GC, GC	A-1, A-2	0	0-15	18-57	15-55	11-44	5-22	21-28	6-10
Rock outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
43:												
Inel-----	0-2	Gravelly loam	GC-GM, CL, GC	A-4, A-6	0-5	0-9	61-83	60-82	50-75	35-54	21-31	6-12
	2-16	Gravelly silt loam, very gravelly loam	GC-GM, GC	A-4, A-6, A-1	0-9	0-26	45-75	42-74	35-67	25-49	20-30	6-12
	16-19	Very cobbly loam, very gravelly sandy loam	GC-GM, SC, GC	A-2, A-1	0-9	25-32	45-78	43-77	31-62	15-33	20-30	6-12
	19-29	Unweathered bedrock			---	---	---	---	---	---	---	---
Matheson-----	0-6	Fine sandy loam	CL, SM, SC-SM	A-4	0	0	82-100	82-100	72-96	35-51	20-31	3-10
	6-12	Sandy loam	SM, SC, SC-SM	A-4, A-2	0	0	82-100	82-100	60-82	30-45	19-28	3-10
	12-35	Sandy loam	SM, SC, SC-SM	A-4, A-2	0	0	82-100	82-100	60-82	30-45	19-28	3-10
	35-45	Gravelly sandy loam	GM, SC, SC-SM	A-1, A-2	0	0-18	50-75	48-74	35-60	18-33	19-28	3-10
	45-55	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
44: Inel-----	0-3	Gravelly silt loam	GC-GM, CL, GC	A-4, A-6	0-6	0-10	59-81	57-80	50-77	40-63	21-31	6-12
	3-9	Gravelly silt loam, very gravelly loam	GC-GM, CL	A-4, A-6, A-2	0-9	0-18	45-81	42-81	38-78	30-64	20-30	6-12
	9-19	Very cobbly loam, very gravelly sandy loam	GC-GM, CL, GC	A-2, A-4, A-6	0-9	25-32	45-78	43-77	36-71	25-51	20-30	6-12
	19-29	Unweathered bedrock			---	---	---	---	---	---	---	---
Slide-----	0-3	Gravelly loam	CL, GC-GM, GC	A-4, A-6	0	0-8	54-84	52-83	44-77	35-58	21-31	6-12
	3-10	Gravelly silt loam, very gravelly sandy loam, gravelly loam	GC, CL, GC-GM	A-2, A-4, A-6	0	0-8	39-69	36-68	32-66	26-54	21-31	6-12
	10-60	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loamy sand, very gravelly silt loam	GC, GP-GM, GW-GC	A-2	0	0-15	28-55	25-53	18-44	9-24	18-28	3-10
Rock outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
45: Jimbee-----	0-7	Gravelly loam	GC, CL, GC-GM	A-4, A-6, A-2	0	0-9	51-76	49-75	41-70	29-51	24-36	7-15
	7-17	Very gravelly loam	GC, GC-GM	A-2, A-6, A-4	0-25	0-17	33-64	30-63	25-58	18-43	23-36	7-15
	17-27	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
Ike-----	0-2	Gravelly loam	GC-GM, GC, CL	A-4, A-2, A-6	0-9	6-18	54-80	52-79	42-76	29-57	21-39	6-17
	2-7	Very gravelly silt loam	GC-GM, GC	A-6, A-2, A-4	0-9	9-32	35-60	32-58	28-57	22-47	20-33	6-13
	7-18	Extremely cobbly silt loam	GP-GC, GC, CL	A-2, A-6, A-4	0-23	30-54	17-83	13-82	12-80	9-66	20-33	6-13
	18-28	Unweathered bedrock			---	---	---	---	---	---	---	---
46: Jimbee-----	0-5	Gravelly loam	GC-GM, CL	A-4, A-6	0-9	0-9	51-82	49-82	41-76	35-56	24-36	7-15
	5-17	Very gravelly loam	GC, GC-GM	A-2, A-4, A-6	0-25	0-17	33-64	30-63	25-58	18-43	23-36	7-15
	17-27	Unweathered bedrock			---	---	---	---	---	---	---	---
Skibo-----	0-4	Gravelly loam	CL, GC-GM, GC	A-2, A-4, A-6	0-5	5-17	55-82	53-81	44-75	31-55	25-37	6-13
	4-31	Extremely gravelly loam, very gravelly loam	GC, GP-GC	A-2	8-23	16-30	23-67	20-65	17-61	12-35	25-36	8-15
	31-60	Extremely gravelly loam, very gravelly loam	GP-GC, GC	A-2	8-16	8-30	15-67	12-65	10-61	7-35	24-34	8-15



## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
46: Ike-----	0-2	Gravelly loam	GC-GM, GC, CL	A-4, A-2, A-6	0-9	6-18	54-80	52-79	42-76	29-57	21-39	6-17
	2-7	Very gravelly silt loam	GC-GM, GC	A-6, A-2, A-4	0-9	9-32	33-60	30-58	26-57	21-47	20-33	6-13
	7-18	Extremely cobbly silt loam	GP-GC, GC, CL	A-2, A-6, A-4	0-23	30-54	17-83	13-82	12-80	9-66	20-33	6-13
	18-28	Unweathered bedrock			---	---	---	---	---	---	---	---
47: Justesen-----	0-10	Loam	SC-SM, CL	A-4, A-6	0	0	82-100	81-100	69-91	48-66	24-35	7-12
	10-25	Loam, silty clay loam	CL	A-6, A-7	0	0	83-100	82-100	72-98	54-77	34-48	16-24
	25-60	Fine sandy loam, loam	SC	A-4, A-6	0	0	84-100	83-100	76-97	36-48	24-32	9-13
Drage-----	0-6	Gravelly loam	CL, GC	A-6	0-9	0-9	58-81	56-81	48-76	35-58	29-40	12-19
	6-15	Gravelly clay loam	CL, GC	A-6, A-7	0-9	0-9	58-81	56-81	49-77	37-60	39-49	19-25
	15-30	Very cobbly clay loam, very gravelly clay loam	GC, CL	A-2, A-7	5-9	17-38	47-78	44-77	39-73	30-57	40-47	21-25
	30-43	Extremely cobbly clay loam, extremely cobbly sandy loam, extremely cobbly loam	GC	A-2, A-4, A-6, A-7	5-16	30-43	32-62	29-60	22-57	16-46	24-44	9-25
	43-60	Extremely cobbly clay loam, extremely cobbly sandy loam, extremely cobbly loam	GC	A-2, A-7, A-6, A-4	5-18	33-46	29-58	26-57	22-57	15-45	24-44	9-25
48: Ketchum-----	0-1	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	1-5	Gravelly loam	GC-GM, CL, SC	A-2, A-6, A-4	0	0-9	54-82	52-81	43-75	30-55	22-35	6-13
	5-18	Very gravelly loam	GC-GM, GC	A-1, A-2	0	0-9	38-54	36-52	30-48	21-35	22-35	6-13
	18-50	Very gravelly sandy loam	GC, GC-GM	A-1, A-2	0	9-17	30-59	27-58	20-48	13-32	21-33	6-13
	50-64	Extremely gravelly coarse sandy loam	GP, GC, GP-GC	A-1	0	0-37	16-36	12-33	7-23	4-14	16-27	2-10
Povey-----	0-6	Gravelly loam	SC, CL, GC-GM	A-4, A-2, A-6	0-3	0-9	50-81	48-81	39-75	28-55	25-37	6-13
	6-12	Very gravelly loam, extremely cobbly loam, extremely cobbly sandy loam	GC, GP-GC, CL	A-4, A-2, A-6	0	9-40	19-77	15-76	13-71	9-52	22-35	6-13
	12-55	Very gravelly loam, extremely cobbly loam, extremely cobbly sandy loam	GC, GP-GC	A-1, A-2	0-9	17-66	18-60	15-58	11-48	5-26	20-31	4-10
	55-65	Unweathered bedrock			---	---	---	---	---	---	---	---

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
49: Kimama-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	87-95	24-35	7-13
	8-34	Silt loam	CL	A-6	0	0	100	100	96-100	89-96	29-39	12-17
	34-60	Silt loam	CL	A-6	0	0	100	100	96-100	89-96	29-39	12-17
50: Klug-----	0-13	Very gravelly loam	GC, GC-GM	A-2	0	0-9	38-53	35-51	29-47	21-34	26-37	7-13
	13-24	Very gravelly loam, extremely gravelly loam	GC, GP-GC	A-2	0	0-17	17-60	13-58	11-54	8-35	24-35	7-13
	24-37	Extremely gravelly loam, very gravelly loam	GP-GC, GC	A-2	0	16-30	19-61	16-59	13-54	9-35	23-33	7-13
	37-60	Extremely gravelly loam	GC, GP-GC	A-2	0	16-30	19-39	16-36	13-33	9-24	23-33	7-13
51: Klug-----	0-13	Very gravelly loam	GC-GM, GC	A-2	0	0-9	38-53	35-51	29-47	21-34	26-37	7-13
	13-24	Very gravelly loam, extremely gravelly loam	GP-GC, GC	A-2	0	0-17	17-60	13-58	11-54	8-35	24-35	7-13
	24-37	Extremely gravelly loam, very gravelly loam	GP-GC, GC	A-2	0	16-30	19-61	16-59	13-54	9-35	23-33	7-13
	37-60	Extremely gravelly loam	GP-GC, GC	A-2	0	16-37	19-62	16-60	13-55	9-35	23-33	7-13
Parvis-----	0-8	Gravelly loam	GC	A-6, A-2	0	0-9	50-73	48-72	40-67	29-50	31-40	11-18
	8-28	Very flaggy loam	GC, CL	A-6, A-2	33-52	0	47-87	45-86	38-80	28-60	29-40	12-18
	28-43	Very flaggy clay loam, extremely flaggy clay loam	CL, GC	A-7, A-2, A-6	40-67	0	45-100	42-100	37-94	29-74	37-45	19-24
	43-60	Extremely flaggy clay loam, very flaggy clay loam	GC, CL	A-2, A-6, A-7	40-67	0	36-100	33-100	29-94	22-74	37-45	19-24
52: Lag-----	0-1	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	1-14	Gravelly loam	GC, CL	A-2, A-4, A-6	0	0-8	53-83	51-83	43-76	30-56	28-40	9-15
	14-25	Extremely gravelly sandy loam, very gravelly loam	GP-GC, GC	A-2, A-1	0-15	0	18-63	15-62	12-57	9-35	21-35	6-13
	25-60	Extremely gravelly sandy loam, very gravelly loam	GP-GC, GC, GW-GC	A-2, A-1	0-22	0	19-68	16-67	11-55	6-30	20-32	6-13

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
53: Lavacreek-----	0-10	Very cobbly silt loam	GC, CL	A-2, A-6	0	34-49	31-61	28-60	26-60	23-55	27-40	10-18
	10-19	Very cobbly silt loam, extremely cobbly loam	GC, CL	A-2, A-6	0	28-40	42-90	39-89	36-89	32-82	27-40	10-18
	19-36	Very cobbly silt loam, extremely cobbly loam	CL, GC	A-6, A-2	0	34-45	39-81	36-81	34-81	26-67	26-38	10-18
	36-59	Extremely cobbly sandy loam	GC, GP-GC	A-2	0	34-56	27-65	24-63	18-51	11-33	23-32	7-13
	59-69	Unweathered bedrock			---	---	---	---	---	---	---	---
Dollarhide-----	0-8	Very gravelly silt loam	GC, GC-GM	A-2, A-1, A-6, A-4	0	0-34	26-54	23-52	20-51	16-42	21-35	4-12
	8-13	Very gravelly loam, extremely cobbly loam	GC, GC-GM	A-1, A-2, A-6, A-4	0	17-49	34-76	32-75	26-69	18-50	20-31	4-12
	13-17	Unweathered bedrock			---	---	---	---	---	---	---	---
	17-27	Unweathered bedrock			---	---	---	---	---	---	---	---
54: Lavacreek-----	0-10	Very cobbly silt loam	GC, CL	A-2, A-6	0	34-49	31-61	28-60	26-60	23-55	27-40	10-18
	10-19	Very cobbly silt loam, extremely cobbly loam	CL, GC	A-2, A-6	0	28-40	42-90	39-89	36-89	32-82	27-40	10-18
	19-36	Very cobbly silt loam, extremely cobbly loam	CL, GC	A-6, A-2	0	34-45	39-81	36-81	34-81	26-67	26-38	10-18
	36-59	Extremely cobbly sandy loam	GC, GP-GC	A-2	0	34-56	27-65	24-63	18-51	11-33	23-32	7-13
	59-69	Unweathered bedrock			---	---	---	---	---	---	---	---
Dollarhide-----	0-8	Very gravelly silt loam	GC-GM, GC	A-1, A-2, A-6, A-4	0	0-34	26-54	23-52	20-51	16-42	21-35	4-12
	8-13	Very gravelly loam, extremely cobbly loam	GC, GC-GM	A-1, A-2, A-6, A-4	0	17-49	34-76	32-75	26-69	18-50	20-31	4-12
	13-17	Unweathered bedrock			---	---	---	---	---	---	---	---
	17-27	Unweathered bedrock			---	---	---	---	---	---	---	---
Grassycone-----	0-1	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	1-3	Fine sandy loam	SM, SC-SM	A-4, A-2, A-6	0	0	65-85	63-84	52-78	28-46	23-40	4-12
	3-9	Gravelly sandy loam, fine sandy loam	SM, GP-GC, GC	A-2	0	0	38-73	35-72	25-58	12-32	21-38	4-12
	9-57	Gravelly fine sandy loam, gravelly sandy loam	GC, GC-GM	A-2	0	0-15	41-72	38-71	33-68	14-34	19-34	4-13
	57-65	Very cobbly loam, very cobbly clay loam, cobbly clay loam, cobbly loam	CL, GC	A-6, A-2	0	43-70	36-86	33-86	32-86	26-73	32-40	16-21

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
55: Lavacreek-----	0-10	Very cobbly silt loam	GC, CL	A-2, A-6	0	34-49	31-61	28-60	26-60	23-55	27-40	10-18
	10-19	Very cobbly silt loam, extremely cobbly loam	CL, GC	A-2, A-6	0	28-40	42-90	39-89	36-89	32-82	27-40	10-18
	19-36	Very cobbly silt loam, extremely cobbly loam	CL, GC	A-6, A-2	0	34-45	39-81	36-81	34-81	26-67	26-38	10-18
	36-59	Extremely cobbly sandy loam	GC, GP-GC	A-2	0	34-56	27-65	24-63	18-51	11-33	23-32	7-13
	59-69	Unweathered bedrock			---	---	---	---	---	---	---	---
Vitale-----	0-3	Very cobbly loam	GC, GC-GM, CL	A-4, A-6, A-2	0-5	32-39	37-78	34-77	28-73	20-54	24-40	7-17
	3-10	Very cobbly loam	GC, CL	A-2, A-6	0-5	16-37	39-79	36-78	31-72	22-54	27-37	12-17
	10-24	Very cobbly clay loam, very cobbly loam	CH, GC	A-6, A-7, A-2	0-5	31-54	33-79	30-78	26-74	20-58	38-51	18-25
	24-33	Very cobbly clay loam, very cobbly loam	GC, CL	A-7, A-2, A-6	0-8	30-64	39-79	36-78	31-78	22-62	27-45	12-25
	33-43	Unweathered bedrock			---	---	---	---	---	---	---	---
56: Lava flows-----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
57: Lava flows-----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
Cinderhurst----	0-3	Extremely cobbly silt loam	ML, GC	A-6, A-4, A-2	0	46-79	36-81	33-80	32-80	29-75	29-39	9-13
	3-8	Very cobbly silt loam	CL	A-6	0	46-71	61-100	60-100	57-100	53-96	29-39	12-17
	8-18	Unweathered bedrock			---	---	---	---	---	---	---	---
58: Lava flows-----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
Pingree-----	0-2	Gravelly silt loam	CL, GC	A-4, A-6	0-5	5-9	66-81	65-81	58-78	48-66	26-34	9-15
	2-7	Gravelly silt loam, cobbly silt loam	GC, CL	A-4, A-6	0-9	0	55-81	53-81	48-78	40-66	26-34	9-15
	7-9	Cobbly silt loam, gravelly silt loam	CL, GC	A-4, A-6	0-9	9-33	65-90	64-90	57-87	47-73	26-34	9-15
	9-19	Unweathered bedrock			---	---	---	---	---	---	---	---

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
59: Leatherman-----	0-3	Gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	0-8	53-76	51-75	43-69	30-50	24-35	7-13
	3-8	Very gravelly loam, gravelly loam	GC-GM, GC, CL	A-6, A-2, A-4	0	0-8	44-77	41-75	35-69	24-51	23-35	7-13
	8-12	Very gravelly loam	GC, GC-GM	A-2	0	0-8	39-57	37-56	31-51	22-35	23-35	7-13
	12-17	Cemented material			---	---	---	---	---	---	---	---
	17-60	Extremely gravelly loamy coarse sand, extremely gravelly sandy loam	GP, GP-GC, GW-GM	A-1	0	7-21	16-39	12-36	6-21	2-9	0-23	NP-6
Adek, dry-----	0-7	Gravelly loam	GC-GM, GC	A-2, A-4, A-6	0-1	0-10	52-76	50-75	41-69	29-50	21-33	4-12
	7-41	Extremely gravelly loam	GW-GC, GP-GC, GC	A-2	0-1	9-33	12-36	9-33	7-32	5-24	23-40	7-17
	41-60	Extremely cobbly loam	GP-GC, GC	A-2	0-1	39-65	20-60	16-58	14-53	10-35	22-30	7-12
Adek-----	0-2	Gravelly loam	GC-GM, GC	A-2, A-4, A-6	0-1	0-10	52-76	50-75	41-69	29-50	21-33	4-12
	2-17	Extremely gravelly loam	GC-GM, GC	A-2	0-2	6-34	12-35	8-33	7-31	5-23	24-40	7-17
	17-60	Extremely cobbly loam	GP-GC, GC	A-2	0-1	46-66	17-52	13-50	11-48	8-35	23-40	7-17
60: Leatherman-----	0-3	Gravelly loam	GC-GM, GC, CL	A-6, A-2, A-4	0	0-8	53-82	51-82	43-75	30-55	24-35	7-13
	3-8	Very gravelly loam, gravelly loam	GC-GM, GC, CL	A-6, A-2, A-4	0	0-8	44-77	41-75	35-69	24-51	23-35	7-13
	8-12	Very gravelly loam	GC-GM, GC	A-2	0	0-8	39-57	37-56	31-51	22-35	23-35	7-13
	12-17	Cemented material			---	---	---	---	---	---	---	---
	17-60	Extremely gravelly loamy coarse sand, extremely gravelly sandy loam	GP, GP-GC, GW-GM	A-1	0	7-21	16-39	12-36	6-21	2-9	0-23	NP-6
Bluedome-----	0-3	Loam	CL-ML, CL, SC-SM	A-4	0	0	78-100	77-100	65-90	45-65	21-30	4-9
	3-22	Loam, gravelly loam	CL, GC-GM, GC	A-4, A-2	0	0-8	58-92	56-92	47-83	33-59	20-28	6-10
	22-30	Cemented material			---	---	---	---	---	---	---	---
	30-60	Extremely gravelly sandy loam	GP, GP-GC	A-1	0	0-15	15-31	11-28	8-23	4-12	16-25	2-7
61: Malm-----	0-10	Fine sandy loam	SC, SC-SM	A-4	0	0	85-100	84-100	77-95	35-44	24-31	7-10
	10-32	Fine sandy loam, gravelly fine sandy loam	SM, CL, SC-SM	A-4	0	0-8	70-100	69-100	60-96	35-51	19-28	3-10
	32-38	Gravelly fine sandy loam, fine sandy loam	SM, CL, SC-SM	A-2, A-4	0	0-15	66-100	64-100	56-96	27-51	18-27	3-10
	38-48	Unweathered bedrock			---	---	---	---	---	---	---	---

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
61: Bondfarm-----	0-2	Cobbly fine sandy loam	SM, SC-SM	A-4	0-5	8-16	79-100	78-100	69-94	35-47	17-24	2-6
	2-11	Fine sandy loam	SM, SC-SM	A-4	0-5	0-16	83-100	83-100	74-94	35-47	16-23	2-6
	11-21	Unweathered bedrock			---	---	---	---	---	---	---	---
Matheson-----	0-6	Fine sandy loam	CL, SM, SC-SM	A-4	0	0	82-100	82-100	72-96	35-50	20-31	3-10
	6-12	Sandy loam	SM, SC, SC-SM	A-4, A-2	0	0	82-100	82-100	60-82	30-45	19-28	3-10
	12-35	Sandy loam	SM, SC, SC-SM	A-4, A-2	0	0	82-100	82-100	60-82	30-45	19-28	3-10
	35-45	Gravelly sandy loam	GM, SC, SC-SM	A-1, A-2	0	0-18	55-81	53-81	40-66	20-35	19-28	3-10
	45-55	Unweathered bedrock			---	---	---	---	---	---	---	---
62: Matheson-----	0-6	Fine sandy loam	CL, SM, SC-SM	A-4	0	0	82-100	82-100	72-96	35-50	20-31	3-10
	6-12	Sandy loam	SM, SC, SC-SM	A-4, A-2	0	0	82-100	82-100	60-82	30-45	19-28	3-10
	12-35	Sandy loam	SM, SC, SC-SM	A-4, A-2	0	0	82-100	82-100	60-82	30-45	19-28	3-10
	35-45	Gravelly sandy loam	GM, SC, SC-SM	A-1, A-2	0	0-18	55-81	53-81	40-66	20-35	19-28	3-10
	45-55	Unweathered bedrock			---	---	---	---	---	---	---	---
Grassy Butte----	0-7	Loamy sand	SM, SC-SM	A-2	0	0	100	100	78-83	21-26	16-22	2-6
	7-60	Loamy sand	SM, SC-SM	A-2	0	0	95-100	95-100	70-82	20-28	0-22	NP-6
63: McCain-----	0-4	Loam	CL-ML, CL	A-4, A-6	0	0	83-100	82-100	79-100	60-81	22-33	6-12
	4-7	Loam	CL-ML, CL	A-4, A-6	0	0	83-100	82-100	79-100	60-81	21-31	6-12
	7-15	Clay loam	CL	A-6, A-7	0	0	82-100	82-100	79-100	65-85	35-43	16-21
	15-23	Silt loam, cobbly silt loam	CL, CL-ML	A-4, A-6	0	0-25	80-100	79-100	74-100	67-97	22-35	6-15
	23-28	Cobbly silt loam, silt loam	CL	A-6	0	0-32	65-96	64-96	61-96	51-86	29-39	12-19
	28-38	Unweathered bedrock			---	---	---	---	---	---	---	---
Thornock-----	0-5	Stony loam	SC-SM, CL	A-4, A-6	9-25	0	80-98	80-98	67-90	46-65	22-33	6-12
	5-10	Silt loam	CL	A-6	0	0	75-90	74-90	68-86	57-73	31-40	13-16
	10-16	Cobbly loam, loam	CL, SC-SM	A-4, A-6	0	0-30	72-100	71-100	60-94	43-71	18-30	4-12
	16-26	Unweathered bedrock			---	---	---	---	---	---	---	---
64: McCarey-----	0-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	83-100	83-100	72-98	58-80	22-37	6-13
	12-18	Clay loam, silty clay loam	CL	A-6, A-7	0	0	84-100	83-100	76-100	66-94	33-48	13-24
	18-33	Silt loam, loam	CL	A-4, A-6	0	0	84-100	84-100	74-99	61-83	24-37	9-17
	33-43	Unweathered bedrock			---	---	---	---	---	---	---	---
Beartrap-----	0-16	Loam	ML, CL-ML	A-4	0	0	91-100	90-100	77-89	54-63	21-30	4-7
	16-52	Fine sandy loam	SC-SM, SC	A-4, A-6	0	0-18	82-100	81-100	73-96	35-47	23-31	7-12
	52-62	Unweathered bedrock			---	---	---	---	---	---	---	---

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
65: McCarey-----	0-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	83-100	83-100	72-98	58-80	22-37	6-13
	12-18	Clay loam, silty clay loam	CL	A-6, A-7	0	0	84-100	83-100	76-100	66-94	33-48	13-24
	18-33	Silt loam, loam	CL	A-4, A-6	0	0	84-100	84-100	74-99	61-83	24-37	9-17
	33-43	Unweathered bedrock			---	---	---	---	---	---	---	---
Beartrap-----	0-16	Loam	ML, CL-ML	A-4	0	0	91-100	90-100	77-89	54-63	21-30	4-7
	16-52	Fine sandy loam	SC-SM, SC	A-4	0	0-18	82-100	81-100	73-96	35-47	23-31	7-12
	52-62	Unweathered bedrock			---	---	---	---	---	---	---	---
66: McCarey-----	0-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	83-100	83-100	72-98	58-80	22-37	6-13
	12-18	Clay loam, silty clay loam	CL	A-6, A-7	0	0	84-100	83-100	76-100	66-94	33-48	13-24
	18-33	Silt loam, loam	CL	A-4, A-6	0	0	84-100	84-100	74-99	61-83	24-37	9-17
	33-43	Unweathered bedrock			---	---	---	---	---	---	---	---
Beartrap-----	0-16	Loam	ML, CL-ML	A-4	0	0	91-100	90-100	77-89	54-63	21-30	4-7
	16-52	Fine sandy loam	SC-SM, SC	A-4	0	0-18	82-100	81-100	73-96	35-47	23-31	7-12
	52-62	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
67: McCarey-----	0-11	Loam	CL, SC-SM	A-4, A-6	0	0	83-100	83-100	68-93	48-68	22-37	6-13
	11-23	Clay loam, silty clay loam	CL	A-6, A-7	0	0	84-100	83-100	76-100	66-94	33-48	13-24
	23-28	Silt loam, loam	CL	A-4, A-6	0	0	84-100	84-100	74-99	61-83	24-37	9-17
	28-38	Unweathered bedrock			---	---	---	---	---	---	---	---
Molyneux-----	0-13	Loam	SC-SM, CL	A-4, A-6	0	0	83-100	83-100	68-93	48-68	22-37	6-13
	13-25	Clay loam	CL	A-7	0	0	84-100	83-100	73-94	56-74	40-51	19-25
	25-62	Silt loam	CL	A-6	0	0	83-100	82-100	77-100	72-94	29-39	12-17
Lava flows-----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
68: McCarey-----	0-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	83-100	83-100	72-98	58-80	22-37	6-13
	12-18	Clay loam, silty clay loam	CL	A-6, A-7	0	0	84-100	83-100	76-100	66-94	33-48	13-24
	18-33	Silt loam, loam	CL	A-4, A-6	0	0	84-100	84-100	74-99	61-83	24-37	9-17
	33-43	Unweathered bedrock			---	---	---	---	---	---	---	---

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
68: Splittop-----	0-4	Loam	CL	A-6	0	0	76-100	75-100	72-100	57-83	29-39	12-17
	4-30	Loam, silt loam	CL	A-6	0	0	76-100	75-100	72-100	58-84	30-39	13-19
	30-40	Unweathered bedrock			---	---	---	---	---	---	---	---
Lava flows-----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
69: McCarey-----	0-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	83-100	83-100	72-98	58-80	22-37	6-13
	12-18	Clay loam, silty clay loam	CL	A-7, A-6	0	0	84-100	83-100	76-100	66-94	33-48	13-24
	18-33	Silt loam, loam	CL	A-4, A-6	0	0	84-100	84-100	74-99	61-83	24-37	9-17
	33-43	Unweathered bedrock			---	---	---	---	---	---	---	---
Vickton-----	0-8	Silt loam	CL	A-6, A-7	0	0	79-100	78-100	70-98	58-83	29-42	12-18
	8-14	Silty clay loam	CL	A-6, A-7	0	0	79-100	78-100	75-100	65-90	38-47	19-25
	14-58	Silty clay loam, loam	CL	A-6, A-7	0	0-5	79-100	78-100	70-100	60-89	30-43	12-21
	58-68	Unweathered bedrock			---	---	---	---	---	---	---	---
Lava flows-----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
70: McClenden-----	0-5	Fine sandy loam	SM, CL, SC-SM	A-4	0	0	79-100	78-100	69-96	35-51	20-31	3-10
	5-11	Loam, fine sandy loam	SC, CL	A-6, A-4	0	0	79-100	78-100	67-90	47-65	24-30	9-12
	11-19	Loam, fine sandy loam	SC-SM, CL	A-4, A-6	0	0	77-100	76-100	64-92	45-66	21-31	6-12
	19-51	Fine sandy loam, loam	SM, SC, SC-SM	A-4, A-6, A-2	0	0-8	84-100	83-100	73-98	31-47	18-29	3-11
	51-53	Cemented material			---	---	---	---	---	---	---	---
	53-63	Unweathered bedrock			---	---	---	---	---	---	---	---
Thornock-----	0-5	Stony loam	SC-SM, CL	A-4, A-6	9-25	0	80-100	80-100	67-92	46-66	22-33	6-12
	5-10	Silt loam	CL	A-6	0	0	75-90	74-90	68-86	57-73	31-40	13-16
	10-16	Cobbly loam, loam	SC-SM, CL	A-4, A-6	0	0-30	72-100	71-100	60-94	43-71	18-30	4-12
	16-26	Unweathered bedrock			---	---	---	---	---	---	---	---
71: Medicine-----	0-4	Loam	CL	A-4, A-6	0	0	84-92	83-91	70-86	50-64	27-40	9-17
	4-12	Loam	CL	A-4, A-6	0	0	84-92	83-91	70-86	50-64	27-40	9-17
	12-25	Silt loam	CL	A-6	0	0	84-92	83-91	76-90	66-79	27-37	12-18
	25-60	Extremely gravelly loamy sand	GP, GP-GC	A-1	0	15-29	16-40	12-38	9-31	2-10	0-23	NP-6



## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
71: Whiteknob-----	0-5	Loam	SC-SM, CL	A-4, A-6	0	0	79-100	78-100	65-92	45-66	22-33	6-12
	5-10	Loam, gravelly loam	GC-GM, CL	A-4, A-6	0	0	55-100	53-100	44-92	35-66	21-31	6-12
	10-18	Very gravelly loam, extremely gravelly sandy loam	GC-GM, GW	A-1	0	0	10-38	6-35	5-28	2-14	17-24	2-6
	18-60	Extremely gravelly loamy coarse sand, extremely gravelly sand, very gravelly loamy coarse sand, very gravelly sand	GP-GC, GW	A-1	0	0	10-38	6-35	5-28	1-5	0-22	NP-4
72: Menan-----	0-7	Silt loam	CL	A-6	0	0	91-100	90-100	89-100	84-96	33-39	14-17
	7-33	Silty clay loam	CL	A-6, A-7	0	0	92-100	91-100	89-100	85-98	38-45	20-24
	33-38	Silty clay loam, silt loam	CL	A-6, A-7	0	0	92-100	91-100	88-100	84-97	35-42	17-21
	38-60	Silt loam, clay loam, loam	CL	A-4, A-6	0	0	92-100	91-100	84-100	79-100	24-40	9-21
73: Mogg-----	0-2	Very gravelly loam	GC	A-2, A-4, A-6	8-18	0	42-67	39-66	33-61	24-46	27-40	9-17
	2-6	Very gravelly loam	GC	A-6, A-2, A-4	8-29	0	40-67	37-66	31-61	22-46	27-40	9-17
	6-13	Very flaggy loam, extremely flaggy loam	GC	A-2, A-4, A-6	4-47	0	26-74	23-72	19-68	14-50	26-37	9-17
	13-23	Unweathered bedrock			---	---	---	---	---	---	---	---
Shagel-----	0-3	Very flaggy loam	GC-GM, GC	A-2, A-4	0-33	0	41-77	39-76	33-68	23-49	25-33	6-10
	3-7	Very gravelly loam, very flaggy loam	GC-GM, GC	A-2, A-4	0-33	0	41-77	39-76	33-68	23-49	25-33	6-10
	7-10	Very flaggy loam, extremely gravelly loam	GC-GM, GP-GM, GC	A-1, A-2, A-4	0-39	0	19-64	16-62	13-57	9-41	19-31	3-10
	10-16	Extremely gravelly loam, very flaggy loam	GW, GC, GP-GC	A-1, A-2	0-44	0	12-44	8-41	6-38	4-27	17-27	3-10
	16-26	Unweathered bedrock			---	---	---	---	---	---	---	---
74: Mooretown-----	0-3	Loam	SC-SM, ML, CL	A-6, A-4	0	0	74-100	73-100	61-92	43-67	26-39	7-13
	3-24	Loam, sandy loam	SC-SM, CL	A-6, A-4	0	0	75-100	74-100	62-92	43-66	22-35	6-12
	24-48	Loam, sandy loam	CL, SC-SM	A-6, A-4	0	0	75-100	74-100	62-92	43-66	22-35	6-12
	48-60	Extremely gravelly loamy sand, very gravelly sandy loam, very gravelly loamy sand	GP, GC-GM, GP-GC	A-2, A-1	0	0-16	16-53	12-51	9-43	2-13	16-25	2-7

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
74: Borah-----	0-3	Silt loam	CL-ML, CL	A-4	0	0	81-100	80-100	71-95	56-77	21-33	4-10
	3-9	Loam	SC-SM, CL, CL-ML	A-4	0	0	82-100	82-100	68-91	48-65	21-31	4-10
	9-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand	GP	A-1	0	0	15-28	11-25	5-12	1-4	0-21	NP-3
75: Mooretown, drained-----	0-3	Loam	ML, CL, SC-SM	A-6, A-4	0	0	74-100	73-100	61-92	43-67	26-39	7-13
	3-24	Loam, sandy loam	SC-SM, CL	A-6, A-4	0	0	75-100	74-100	62-92	43-66	22-35	6-12
	24-48	Loam, sandy loam	CL, SC-SM	A-6, A-4	0	0	75-100	74-100	62-92	43-66	22-35	6-12
	48-60	Extremely gravelly loamy sand, very gravelly sandy loam, very gravelly loamy sand	GP, GC-GM, GP-GC	A-2, A-1	0	0-16	16-53	12-51	9-43	2-13	16-25	2-7
Borco-----	0-2	Gravelly loam	GC-GM, GC	A-2, A-4	0	0	52-62	50-60	42-55	29-40	21-33	4-10
	2-10	Gravelly loam, gravelly sandy loam, very gravelly loam, very gravelly sandy loam	GC-GM, GC	A-1, A-2	0	0	40-61	37-60	28-49	17-32	21-31	4-10
	10-26	Extremely gravelly sand, extremely gravelly loamy coarse sand	GP	A-1	0	0-18	12-28	8-25	6-20	1-3	0-21	NP-3
	26-60	Extremely gravelly sand, extremely gravelly loamy coarse sand	GP, GP-GM, GW	A-1	0	0	12-28	8-25	4-15	1-6	0-21	NP-3
76: Nargon-----	0-5	Loam	CL, SC	A-6	0-5	0-9	82-100	81-100	69-93	49-69	28-39	11-17
	5-15	Clay loam, silt loam	CL	A-6, A-7	0	0-5	82-100	82-100	67-93	51-72	32-43	13-21
	15-22	Loam, stony loam, gravelly silt loam	CL, GC	A-6	2-18	3-18	65-96	63-96	54-89	39-66	27-36	12-17
	22-32	Unweathered bedrock			---	---	---	---	---	---	---	---
Atom-----	0-7	Silt loam	CL	A-6, A-7	0	0	90-100	90-100	86-100	81-99	31-42	12-19
	7-15	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	90-100	90-100	77-100	73-98	30-47	12-25
	15-60	Loam, silt loam, clay loam, silty clay loam	ML, CL-ML	A-6, A-7, A-4	0	0	91-100	91-100	82-100	78-100	25-45	5-15

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
76: Techicknot-----	0-4	Loam	CL	A-6	0	0	91-100	90-100	79-92	58-69	31-39	13-17
	4-29	Loam, clay loam, silty clay loam	CL	A-6, A-7	0	0	83-100	82-100	71-95	54-74	37-48	17-24
	29-48	Loam, silt loam, clay loam, silty clay loam	CL	A-6, A-7	0	0	78-100	77-100	67-99	51-79	33-46	15-24
	48-60	Loam, silt loam, silty clay loam, clay loam	CL	A-6	0	0	78-100	77-100	70-100	59-87	29-40	13-21
77: Nargon-----	0-2	Silt loam	CL	A-6	0-5	0-9	82-100	81-100	73-97	61-82	29-39	12-17
	2-7	Clay loam, silt loam	CL	A-6, A-7	0	0-5	82-100	82-100	67-93	51-72	32-43	13-21
	7-21	Loam, stony loam, gravelly silt loam	CL, GC	A-6	2-18	3-18	65-96	63-96	54-89	39-66	27-36	12-17
	21-31	Unweathered bedrock			---	---	---	---	---	---	---	---
Deuce-----	0-2	Stony silt loam	CL	A-4, A-6	9-18	0-18	78-96	77-95	69-94	57-80	27-39	9-17
	2-11	Silt loam, cobbly loam, clay loam	CL, GC	A-6	0-9	0-33	50-100	48-100	42-100	35-88	26-40	10-21
	11-19	Silt loam, stony clay loam, clay loam	CL	A-6, A-7	0-32	0-17	78-100	77-100	68-100	57-89	30-45	12-23
	19-29	Unweathered bedrock			---	---	---	---	---	---	---	---
Lava flows-----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
78: Nitchly-----	0-10	Gravelly loam	GC, CL	A-6, A-2	0-5	0-18	50-81	48-80	41-74	29-55	29-39	12-17
	10-24	Very gravelly loam, very gravelly clay loam	GC	A-2	0	0-25	31-50	28-48	23-48	17-35	28-45	12-25
	24-60	Very gravelly clay loam, very gravelly loam	GC	A-2	0	0-16	32-52	29-50	23-48	17-35	29-46	12-25
79: Nurkey-----	0-7	Gravelly loam	CL, GC	A-6	0-9	0-9	56-82	54-81	45-75	35-56	27-39	10-17
	7-15	Very gravelly clay loam, very gravelly loam	GC	A-2	0-9	9-25	35-53	32-51	28-48	22-35	36-45	16-21
	15-60	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GC-GM, GC	A-2	0-9	9-32	29-49	26-47	21-45	15-35	23-39	7-19

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
79: Dacont-----	0-2	Gravelly loam	ML, GC, SC	A-4, A-2, A-6	0-5	0-5	50-81	48-81	41-73	29-54	29-39	9-13
	2-8	Very gravelly loam	GC	A-2	0-9	0-18	46-63	44-61	38-57	28-40	32-40	14-19
	8-12	Very gravelly loam, very gravelly sandy loam	GC, GC-GM	A-2	2-9	2-18	44-63	41-61	34-56	24-40	21-33	6-12
	12-24	Very gravelly sandy loam, very gravelly loam	GC, GC-GM	A-2	0-9	9-17	39-64	36-62	27-49	13-25	20-27	6-10
	24-35	Very gravelly sandy loam, very gravelly loam	GM, GC-GM	A-1	0-9	1-17	40-65	37-63	27-51	13-27	16-25	2-7
	35-60	Very gravelly sandy loam, very cobbly loam	GM, GC-GM	A-1	0-9	1-32	40-65	37-63	28-51	15-29	0-21	NP-4
80: Nurkey-----	0-7	Gravelly loam	CL, GC	A-6	0-9	0-9	56-82	54-81	45-75	35-56	27-39	10-17
	7-15	Very gravelly clay loam, very gravelly loam	GC	A-2	0-9	9-25	35-58	32-56	28-53	22-35	36-45	16-21
	15-60	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GC-GM, GC	A-2	0-9	9-32	29-53	26-51	21-49	15-35	23-39	7-19
Dacont-----	0-2	Gravelly loam	ML, GC, SC	A-4, A-2, A-6	0-5	0-5	50-81	48-81	41-73	29-54	29-39	9-13
	2-8	Very gravelly loam	GC	A-2	0-5	0-18	46-63	44-61	38-57	28-35	32-40	14-19
	8-12	Very gravelly loam, very gravelly sandy loam	GC, GC-GM	A-2	2-9	2-18	44-63	41-61	34-56	24-35	21-33	6-12
	12-24	Very gravelly sandy loam, very gravelly loam	GC, GC-GM	A-2	0-9	9-17	39-64	36-62	27-49	13-25	20-27	6-10
	24-35	Very gravelly sandy loam, very gravelly loam	GM, GC-GM	A-1	0-9	1-17	40-65	37-63	27-51	13-27	16-25	2-7
	35-60	Very gravelly sandy loam, very cobbly loam	GM, GC-GM	A-1	0-9	1-17	40-65	37-63	28-51	15-29	0-21	NP-4

Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
81: Nurkey-----	0-3	Gravelly loam	CL, GC	A-6	0-9	0-9	56-82	54-81	45-75	35-56	27-39	10-17
	3-10	Gravelly loam	CL, GC	A-6, A-7	0-9	0-9	56-75	54-74	46-70	35-53	30-42	12-19
	10-20	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-9	9-25	35-58	32-56	28-53	22-41	36-45	16-21
	20-40	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GC-GM, GC	A-2	0-9	9-32	29-53	26-51	21-49	15-35	23-39	7-19
	40-60	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GW-GM, GC	A-2	0-9	9-25	32-53	29-51	20-43	9-23	17-33	2-13
Nurkey, low precipitation--	0-10	Gravelly loam	CL, GC	A-6	0-5	0-9	56-82	54-81	45-75	35-56	27-39	10-17
	10-17	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0-9	9-25	35-58	32-56	28-53	22-41	36-45	16-21
	17-35	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GC-GM, GC	A-2	0-9	9-32	29-53	26-51	21-49	15-35	23-39	7-19
	35-60	Very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GP-GM, GC	A-2	0-9	9-32	29-53	26-51	18-43	8-23	17-33	2-13
82: Calclids-----	0-4	Very gravelly loam	GC, GC-GM	A-2, A-6, A-4	0-4	7-22	38-68	36-67	30-61	21-45	24-35	7-13
	4-12	Very gravelly loam, extremely gravelly loam	GC, GP-GC	A-2	0	7-28	20-59	17-58	14-53	10-35	23-33	7-13
	12-25	Very gravelly loam, extremely gravelly loam	GC, GP-GC	A-1, A-2	0	15-29	20-54	17-52	14-48	10-35	20-30	6-12
	25-60	Extremely gravelly coarse sandy loam	GC, GP-GC	A-1, A-2	0	8-29	19-40	16-37	9-25	5-15	20-30	6-12
Rubble land----	0-60	Fragmental material			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
83: Packmo-----	0-3	Gravelly loam	GC-GM, CL, GC	A-4, A-6	0-3	0-9	51-81	49-81	41-75	35-55	24-36	7-15
	3-12	Very gravelly sandy loam	GC-GM, GW-GC, GC	A-2	0-3	0-17	33-59	30-58	22-48	11-27	23-34	7-15
	12-42	Very gravelly sandy loam	GC-GM, GP-GC, GC	A-2	0-9	0-17	30-57	27-56	20-45	10-24	20-30	6-12
	42-60	Extremely gravelly loamy coarse sand, extremely gravelly loamy sand	GP, GP-GC, GW-GC	A-1	0-19	19-34	19-41	16-39	8-22	3-10	16-23	2-6
Snowslide-----	0-5	Gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	0-9	53-76	51-75	43-68	30-49	23-31	7-12
	5-24	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GP-GC	A-1, A-2	0	7-22	19-57	16-55	14-49	10-35	22-28	6-10
	24-60	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GP-GM, GC-GM	A-1, A-2	0	0-22	19-56	16-54	11-46	5-26	17-31	2-12
84: Paint-----	0-10	Gravelly loam	GC-GM, CL, GC	A-2, A-4, A-6	0	0-8	54-84	52-83	44-76	31-55	24-34	7-13
	10-18	Very gravelly loam	GC-GM, GC	A-2, A-4, A-6	0	5-23	39-57	37-56	31-51	22-37	24-34	7-13
	18-19	Cemented material			---	---	---	---	---	---	---	---
	19-28	Extremely gravelly loamy coarse sand, extremely gravelly sand, very gravelly sandy loam	GC, GP-GM, GM	A-2	0	5-23	15-60	11-58	8-53	5-35	0-34	NP-13
	28-60	Extremely gravelly loamy coarse sand, extremely gravelly sand, very gravelly sandy loam	GP, GC-GM, GP-GC	A-1	0	0-15	14-56	10-54	6-31	2-13	16-23	2-6
Fallert-----	0-3	Gravelly loam	GC, CL, GC-GM	A-4, A-2, A-6	0	0-5	52-83	50-82	41-77	29-57	24-37	7-16
	3-11	Very gravelly loam, gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	0-16	34-74	31-73	26-67	18-48	23-31	7-12
	11-27	Very gravelly sandy loam	GC, GP-GC	A-1, A-2	0	4-15	36-63	33-61	24-48	12-25	21-28	6-10
	27-60	Extremely gravelly loamy coarse sand, very gravelly loamy sand, extremely gravelly loamy sand	GP, GP-GC	A-1	0	4-14	19-52	15-50	8-29	3-12	16-23	2-6

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
85: Paint-----	0-8	Gravelly loam	GC-GM, CL, GC	A-2, A-4, A-6	0	0-16	55-78	53-77	45-70	31-51	24-34	7-13
	8-15	Very gravelly loam	GC-GM, GC	A-2	0	0-9	35-54	32-52	27-47	19-34	24-34	7-13
	15-20	Cemented material			---	---	---	---	---	---	---	---
	20-28	Extremely gravelly loamy coarse sand, extremely gravelly sand, very gravelly sandy loam	GC, GP-GM, GM	A-2, A-1	0	8-23	15-56	11-54	8-49	5-35	0-34	NP-13
	28-60	Extremely gravelly loamy coarse sand, extremely gravelly sand, very gravelly sandy loam	GP, GP-GC	A-1	0	0-15	14-56	10-54	8-44	1-8	16-23	2-6
Whitecloud-----	0-10	Gravelly loam	GC-GM, CL, GC	A-4, A-6	0	0-8	59-78	57-77	48-70	35-51	22-33	6-12
	10-15	Very gravelly sandy loam, extremely gravelly sandy loam	GC, GP-GM, GP-GC	A-1, A-2	0	4-14	23-52	20-50	15-41	7-22	18-27	3-10
	15-60	Extremely gravelly loamy sand	GP-GM, GP, GP-GC	A-1	0	0-14	21-36	17-34	13-27	4-9	0-21	NP-4
86: Pancheri-----	0-4	Silt loam	CL, CL-ML	A-4, A-6	0	0	84-100	83-100	79-100	71-95	21-32	4-11
	4-9	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	84-100	83-100	77-100	67-93	17-31	2-12
	9-29	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	84-100	84-100	77-100	67-93	16-30	2-12
	29-60	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	84-100	84-100	77-100	67-93	16-30	2-12
87: Pancheri-----	0-4	Silt loam	CL-ML, CL	A-6, A-4	0	0	84-100	83-100	79-100	71-95	21-32	4-11
	4-9	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	84-100	83-100	77-100	67-93	17-31	2-12
	9-29	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	84-100	84-100	77-100	67-93	16-30	2-12
	29-60	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	84-100	84-100	77-100	67-93	16-30	2-12
Polatis-----	0-3	Silt loam	CL, CL-ML	A-4, A-6	0-1	0	79-100	78-100	75-100	68-95	22-33	6-12
	3-26	Silt loam	CL, CL-ML	A-4, A-6	0	0-1	79-100	78-100	75-100	68-95	20-30	6-12
	26-39	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	79-100	78-100	75-100	68-95	20-30	6-12
	39-49	Unweathered bedrock			---	---	---	---	---	---	---	---
88: Playas-----	0-60	Stratified silty clay loam to clay	CH, MH, CL	A-7	---	---	---	---	---	---	45-75	20-40
89: Polatis-----	0-5	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	85-100	84-100	78-100	67-93	18-33	2-12
	5-34	Silt loam	CL, CL-ML	A-4, A-6	0	0	85-100	84-100	80-100	73-95	20-30	6-12
	34-44	Unweathered bedrock			---	---	---	---	---	---	---	---

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
90: Portino-----	0-4	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	71-81	20-31	4-12
	4-29	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	94-100	86-96	18-30	4-12
	29-39	Unweathered bedrock			---	---	---	---	---	---	---	---
Thornock-----	0-5	Stony loam	SC-SM, CL	A-6, A-4	9-39	0	78-98	77-98	65-90	45-65	22-33	6-12
	5-10	Silt loam	CL	A-6	0	0	75-90	74-90	68-86	57-73	31-40	13-16
	10-16	Cobbly loam, loam	CL, SC-SM	A-6, A-4	0	0-30	72-100	71-100	60-94	43-71	18-30	4-12
	16-26	Unweathered bedrock			---	---	---	---	---	---	---	---
91: Riverlost-----	0-5	Cobbly silt loam	CL	A-6, A-7	0	18-33	72-96	71-95	65-93	55-80	31-42	13-18
	5-16	Silty clay loam	CL, CH	A-6, A-7	0	0-9	76-100	75-100	70-100	62-94	37-50	19-29
	16-26	Silty clay loam	CH, CL	A-7	0	0	76-100	75-100	71-100	68-100	43-55	25-32
	26-34	Clay loam	CL, CH	A-6, A-7	0	0	76-100	75-100	65-97	51-77	39-50	21-29
	34-48	Very cobbly clay loam, gravelly sandy loam, extremely gravelly sandy loam, gravelly clay loam	CL, CH, GC-GM	A-6, A-7, A-2	0	0-45	31-90	28-90	18-87	13-69	22-50	6-29
	48-60	Gravelly sandy loam, very cobbly clay loam, extremely gravelly sandy loam, gravelly clay loam	CL, GP-GC, SC	A-2, A-6, A-7	0	0-32	27-90	24-90	17-90	8-58	20-49	6-28
Frymire-----	0-4	Very cobbly clay loam	GC, CH	A-7, A-2	0-26	18-40	45-87	42-86	36-84	28-67	42-58	19-28
	4-15	Very cobbly silty clay loam	GC, CH, CL	A-7, A-6	0-9	33-46	45-87	42-86	39-86	35-81	39-55	19-28
	15-31	Very cobbly clay, extremely cobbly clay	CH, GC	A-7	2-33	33-52	39-87	36-86	35-86	35-72	49-61	29-37
	31-52	Very cobbly clay, extremely cobbly clay	CH, GC	A-7	2-18	33-57	55-87	53-86	48-86	39-72	49-61	29-37
	52-61	Cobbly clay loam	CL, CH	A-7, A-6	2-18	18-26	78-96	77-95	66-93	51-74	37-50	19-29



## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
92: Riverlost-----	0-5	Cobbly silt loam	CL	A-6, A-7	0	18-33	72-96	71-95	65-93	55-80	31-42	13-18
	5-16	Silty clay loam	CL, CH	A-6, A-7	0	0-9	76-100	75-100	70-100	62-94	37-50	19-29
	16-26	Silty clay loam	CH, CL	A-7	0	0	76-100	75-100	71-100	68-100	43-55	25-32
	26-34	Clay loam	CL, CH	A-6, A-7	0	0	76-100	75-100	65-97	51-77	39-50	21-29
	34-48	Very cobbly clay loam, gravelly sandy loam, extremely gravelly sandy loam, gravelly clay loam	CL, CH, GC-GM	A-6, A-7, A-2	0	17-45	31-90	28-90	18-87	13-69	22-50	6-29
	48-60	Gravelly sandy loam, very cobbly clay loam, extremely gravelly sandy loam, gravelly clay loam	GP-GC, CL, SC	A-2, A-7, A-6	0	0-32	27-90	24-90	17-90	8-58	20-49	6-28
Grouseville-----	0-7	Silt loam	CL, ML	A-6, A-7	0	0-5	83-100	83-100	75-98	64-85	33-47	13-18
	7-33	Clay loam, clay	CL, CH	A-6, A-7	0	0-5	84-100	84-100	74-100	57-84	39-59	19-31
	33-60	Clay loam, clay	CL, CH	A-7	0	0-8	84-100	84-100	75-99	60-82	46-59	25-33
93: Riverlost-----	0-5	Cobbly silt loam	CL	A-6, A-7	0	18-33	72-96	71-95	65-93	55-80	31-42	13-18
	5-16	Silty clay loam	CL, CH	A-6, A-7	0	0-9	76-100	75-100	70-100	62-94	37-50	19-29
	16-26	Silty clay loam	CH, CL	A-7	0	0	76-100	75-100	71-100	68-100	43-55	25-32
	26-34	Clay loam	CL, CH	A-6, A-7	0	0	76-100	75-100	65-97	51-77	39-50	21-29
	34-48	Very cobbly clay loam, gravelly sandy loam, extremely gravelly sandy loam, gravelly clay loam	CL, CH, GC-GM	A-6, A-7, A-2	0	0-51	31-90	28-90	18-87	13-69	22-50	6-29
	48-60	Gravelly sandy loam, very cobbly clay loam, extremely gravelly sandy loam, gravelly clay loam	GP-GC, CL, SC	A-2, A-6, A-7	0	0-32	27-90	24-90	17-90	8-58	20-49	6-28
Soen-----	0-7	Clay loam	CL, CH	A-7	0	0	100	100	87-94	67-74	40-51	19-25
	7-22	Silty clay loam	CH, CL	A-7	0	0	100	100	95-100	91-100	46-62	25-36
	22-60	Silt loam	CL	A-6	0	0	79-100	78-100	69-99	57-83	27-39	10-17
94: Rubble land-----	0-60	Fragmental material			---	---	---	---	---	---	---	---

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
94: Milligan-----	0-10	Extremely cobbly loam	GC-GM, GC	A-2, A-4	0	37-64	38-70	35-69	30-62	21-45	21-33	4-10
	10-28	Extremely gravelly loam	GC-GM, GC, GP-GC	A-1, A-2	0	24-43	22-36	19-33	16-30	11-21	20-28	4-10
	28-38	Fragmental material	GP, GW	A-1	93-100	0	100	100	---	---	0-14	NP
	38-48	Unweathered bedrock			---	---	---	---	---	---	---	---
95: Sanfelipe-----	0-3	Gravelly loam	GC, GC-GM, SC	A-4, A-6	0	0	61-74	59-73	50-67	35-49	24-35	7-13
	3-42	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly loam	GC, GC-GM	A-2	0	0-18	28-52	25-50	21-46	15-34	23-33	7-13
	42-60	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly loam	GM, GC-GM, GP-GM	A-1	0	0-24	30-58	26-56	20-46	10-27	0-23	NP-6
96: Sanfelipe-----	0-3	Gravelly loam	GC, GC-GM, SC	A-4, A-6	0	0	61-74	59-73	50-67	35-49	24-35	7-13
	3-42	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly loam	GC, GC-GM	A-2	0	0-18	28-52	25-50	21-46	15-34	23-33	7-13
	42-60	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly loam	GM, GC-GM, GP-GM	A-1	0	0-24	30-54	26-52	20-43	10-24	0-23	NP-6
97: Sanfelipe-----	0-15	Loam	CL, SC-SM	A-4, A-6	0	0-6	76-100	75-100	63-92	45-67	24-35	7-13
	15-30	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly loam	GC, GC-GM	A-2	0	0-18	28-52	25-50	21-46	15-34	23-33	7-13
	30-60	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly loam	GC-GM, GC	A-2	0	0-17	30-54	26-52	22-48	16-35	22-32	7-13
McCaleb-----	0-5	Silt loam	CL	A-4, A-6	0	0	77-100	76-100	69-95	56-78	26-33	9-12
	5-60	Loam, silt loam, gravelly loam	CL, GC	A-4, A-6	0	0	59-92	57-91	52-87	42-71	24-30	9-12

Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
98: Sanfelipe-----	0-3	Gravelly loam	GC-GM, GC, SC	A-4, A-6	0	0	61-74	59-73	50-67	35-49	24-35	7-13
	3-42	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly loam	GC, GC-GM	A-2	0	0-18	28-52	25-50	21-46	15-34	23-33	7-13
	42-60	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly loam	GM, GC-GM, GP-GM	A-1	0	0-17	30-54	26-52	20-43	10-24	0-23	NP-6
Simeroi-----	0-4	Gravelly silt loam	GC-GM, CL	A-4, A-6	0	0	55-78	53-77	46-75	37-62	22-35	6-13
	4-26	Very gravelly loam	GC, GC-GM	A-2	0	0-8	36-53	33-51	27-47	19-34	22-35	6-13
	26-60	Very gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GC, GC	A-1, A-2	0	0-15	18-57	15-55	11-44	5-22	21-28	6-10
99: Simeroi-----	0-4	Gravelly silt loam	GC-GM, CL	A-4, A-6	0	0	55-78	53-77	46-75	37-62	22-35	6-13
	4-26	Very gravelly loam	GC, GC-GM	A-2	0	0-8	36-53	33-51	27-47	19-34	22-35	6-13
	26-60	Very gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GC, GC	A-1, A-2	0	0-15	18-57	15-55	11-44	5-22	21-28	6-10
100: Simeroi-----	0-4	Gravelly silt loam	GC-GM, CL	A-4, A-6	0	0	55-78	53-77	46-75	37-62	22-35	6-13
	4-26	Very gravelly loam	GC, GC-GM	A-2	0	0-8	36-53	33-51	27-47	19-34	22-35	6-13
	26-60	Very gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GC, GC	A-1, A-2	0	0-15	18-57	15-55	11-44	5-22	21-28	6-10
101: Simeroi-----	0-4	Gravelly silt loam	GC-GM, CL	A-4, A-6	0	0	55-78	53-77	46-75	37-62	22-35	6-13
	4-26	Very gravelly loam	GC, GC-GM	A-2	0	0-8	36-53	33-51	27-47	19-34	22-35	6-13
	26-60	Very gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GC, GC	A-1, A-2	0	0-15	18-57	15-55	11-44	5-22	21-28	6-10

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
102: Simeroi, cool---	0-4	Gravelly silt loam	GC-GM, CL	A-4, A-6	0	0	55-78	53-77	46-75	37-62	22-35	6-13
	4-26	Very gravelly loam	GC, GC-GM	A-2	0	0-8	36-53	33-51	27-47	19-34	22-35	6-13
	26-60	Very gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GC, GC	A-1, A-2	0	0-15	18-57	15-55	11-44	5-22	21-28	6-10
103: Simeroi, dry----	0-4	Gravelly silt loam	GC-GM, CL	A-4, A-6	0	0	55-78	53-77	46-75	37-62	22-35	6-13
	4-26	Very gravelly loam	GC, GC-GM	A-2	0	0-8	36-53	33-51	27-47	19-34	22-35	6-13
	26-60	Very gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GC, GC	A-1, A-2	0	0-15	18-57	15-55	11-44	5-22	21-28	6-10
104: Simeroi-----	0-4	Gravelly silt loam	GC-GM, CL	A-4, A-6	0	0	55-78	53-77	46-75	37-62	22-35	6-13
	4-26	Very gravelly loam	GC, GC-GM	A-2	0	0-8	36-53	33-51	27-47	19-34	22-35	6-13
	26-60	Very gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GC, GC	A-1, A-2	0	0-15	18-57	15-55	11-44	5-22	21-28	6-10
Paint-----	0-11	Gravelly loam	GC-GM, CL, GC	A-2, A-4, A-6	0	0-8	54-84	52-83	44-76	31-55	24-34	7-13
	11-19	Very gravelly loam	GC-GM, GC	A-2, A-4, A-6	0	5-16	39-62	37-60	31-55	22-40	24-34	7-13
	19-20	Cemented material			---	---	---	---	---	---	---	---
	20-60	Extremely gravelly loamy coarse sand, extremely gravelly sand, very gravelly sandy loam	GC-GM, GP-GC	A-1	0	0-15	14-56	10-54	6-31	2-13	16-23	2-6
105: Simeroi, dry----	0-4	Gravelly silt loam	GC-GM, CL	A-4, A-6	0	0	55-78	53-77	46-75	37-62	22-35	6-13
	4-26	Very gravelly loam	GC, GC-GM	A-2	0	0-8	36-53	33-51	27-47	19-34	22-35	6-13
	26-60	Very gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GC, GC	A-1, A-2	0	0-15	18-57	15-55	11-44	5-22	21-28	6-10
Simeroi-----	0-4	Gravelly silt loam	GC-GM, CL	A-4, A-6	0	0	55-78	53-77	46-75	37-62	22-35	6-13
	4-26	Very gravelly loam	GC, GC-GM	A-2	0	0-8	36-53	33-51	27-47	19-34	22-35	6-13
	26-60	Very gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GC, GC	A-1, A-2	0	0-15	18-57	15-55	11-44	5-22	21-28	6-10

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
106:												
Simeroi-----	0-4	Gravelly silt loam	GC-GM, CL	A-4, A-6	0	0	55-78	53-77	46-75	37-62	22-35	6-13
	4-26	Very gravelly loam	GC, GC-GM	A-2	0	0-8	36-53	33-51	27-47	19-34	22-35	6-13
	26-60	Very gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GC, GC	A-1, A-2	0	0-15	18-57	15-55	11-44	5-22	21-28	6-10
Sparmo-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	77-100	76-100	69-96	55-78	24-33	7-12
	9-22	Silt loam, gravelly loam	CL-ML, CL	A-4	0	0	78-100	77-100	70-95	56-77	23-29	7-10
	22-29	Gravelly loam, silt loam	CL, GC-GM, GC	A-4	0	0	53-100	51-100	44-91	35-68	23-29	7-10
	29-40	Silt loam, gravelly loam	GC-GM, CL	A-4	0	0	53-100	51-100	46-95	37-77	23-29	7-10
	40-60	Very gravelly loam	GM, GC, GC-GM	A-2	0	0	36-55	33-53	27-48	19-34	16-26	2-9
107:												
Simeroi-----	0-4	Gravelly silt loam	GC-GM, CL	A-4, A-6	0	0	55-78	53-77	46-75	37-62	22-35	6-13
	4-26	Very gravelly loam	GC, GC-GM	A-2	0	0-8	36-53	33-51	27-47	19-34	22-35	6-13
	26-60	Very gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GC, GC	A-1, A-2	0	0-15	18-57	15-55	11-44	5-22	21-28	6-10
Slide-----	0-2	Gravelly loam	GC, CL, GC-GM	A-2, A-4, A-6	0	0-8	54-84	52-83	44-76	31-55	21-31	6-12
	2-16	Gravelly silt loam, very gravelly sandy loam, gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	5-8	39-69	36-68	31-63	22-48	21-31	6-12
	16-60	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loamy sand, very gravelly silt loam	GP-GM, GC, GW-GC	A-2	0	0-15	28-55	25-53	18-44	9-24	18-28	3-10
McCaleb-----	0-3	Loam	CL, SC	A-4, A-6	0	0	77-100	76-100	66-90	47-65	26-33	9-12
	3-13	Gravelly loam, loam	SC, CL, GC	A-4, A-6	0	0	64-84	62-83	53-75	38-54	25-31	9-12
	13-45	Loam, silt loam, gravelly loam	CL, GC	A-4, A-6	0	0	59-92	57-91	49-82	35-60	24-30	9-12
	45-60	Loam, silt loam, gravelly loam	CL, GC	A-4, A-6	0	0	59-84	57-84	49-75	35-54	24-30	9-12

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
108: Simeroi-----	0-4	Gravelly silt loam	GC-GM, CL	A-4, A-6	0	0	55-78	53-77	46-75	37-62	22-35	6-13
	4-26	Very gravelly loam	GC, GC-GM	A-2	0	0-8	36-53	33-51	27-47	19-34	22-35	6-13
	26-60	Very gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GC, GC	A-1, A-2	0	0-15	18-57	15-55	11-44	5-22	21-28	6-10
Bealand-----	0-5	Gravelly loam	CL, GC-GM, GC	A-4, A-6	0	0	61-75	60-74	48-70	35-52	22-39	6-17
	5-10	Gravelly loam, very gravelly loam, gravelly silt loam	GC, CL, GC-GM	A-4, A-6, A-2	0	0	37-76	35-75	29-70	20-51	21-33	6-13
	10-39	Very gravelly loam, very gravelly silt loam	GC-GM, GC	A-2	0	0	39-53	36-51	30-47	21-34	20-30	6-12
	39-60	Very gravelly loam, very gravelly silt loam	GC-GM, GC	A-2	0	0	39-53	36-51	30-47	21-34	20-30	6-12
109: Slide-----	0-3	Gravelly loam	GC, CL, GC-GM	A-2, A-4, A-6	0	0-5	54-84	52-83	44-76	31-55	21-31	6-12
	3-9	Gravelly silt loam, very gravelly sandy loam, gravelly loam	GC, GC-GM	A-2	0	0-8	43-69	41-68	30-55	15-31	21-31	6-12
	9-18	Gravelly silt loam, very gravelly sandy loam, gravelly loam	GM, SC, GC-GM	A-2	0	0-15	40-76	38-75	28-62	14-34	18-28	3-10
	18-32	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loamy sand, very gravelly silt loam	GC, GP-GC	A-1, A-2	0	0-18	24-50	21-48	15-38	7-20	21-29	6-10
	32-60	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loamy sand, very gravelly silt loam	GC-GM, GP-GM, GP-GC	A-1	0	0-14	30-57	27-56	21-45	6-14	18-23	3-6

Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
110: Snowslide-----	0-8	Gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	0-9	53-76	51-75	43-68	30-49	23-31	7-12
	8-14	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GP-GC	A-1, A-2	0	7-22	19-61	16-60	14-53	10-35	22-28	6-10
	14-60	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GP-GM, GC-GM	A-1, A-2	0	8-22	19-61	16-59	13-55	9-35	17-31	2-12
111: Snowslide-----	0-3	Gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	0-9	53-76	51-75	43-68	30-49	23-31	7-12
	3-19	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GP-GC	A-1, A-2	0	7-22	19-61	16-60	14-53	10-35	22-28	6-10
	19-60	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GP-GM, GC-GM	A-1, A-2	0	0-22	19-61	16-59	11-50	5-28	17-31	2-12
112: Snowslide-----	0-7	Gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	0-9	53-76	51-75	43-68	30-49	23-31	7-12
	7-13	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GP-GC	A-1, A-2	0	7-22	19-61	16-60	14-53	10-35	22-28	6-10
	13-60	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GP-GM, GC-GM	A-1, A-2	0	0-22	19-61	16-59	11-50	5-28	17-31	2-12

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
112: Zer-----	0-5	Gravelly loam	GC-GM, SC	A-4, A-2	0	0	54-77	52-76	43-70	30-50	22-33	5-12
	5-10	Gravelly loam, very gravelly loam	GC, CL, GC-GM	A-1, A-2, A-4	0	0-8	35-78	32-77	27-71	19-51	20-31	5-12
	10-22	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GC, GC-GM	A-1, A-2, A-4	0	8-16	26-63	22-62	19-57	13-41	20-31	5-12
	22-41	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SC, GP-GM, GW-GC	A-1, A-2, A-4	0	8-29	26-84	23-84	17-70	8-35	16-28	2-10
	41-60	Very gravelly loamy sand, extremely gravelly loamy sand	GP, GP-GM, GC-GM	A-1	0	0-22	18-55	15-53	11-43	4-17	0-21	NP-4
113: Snowslide-----	0-3	Gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	0-9	53-76	51-75	43-68	30-49	23-31	7-12
	3-9	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GP-GC	A-1, A-2	0	7-22	19-61	16-60	14-53	10-35	22-28	6-10
	9-60	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GP-GM, GC, GC-GM	A-1, A-2	0	8-22	19-61	16-59	11-50	5-28	17-31	2-12



## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
113: Zer-----	0-5	Gravelly loam	GC-GM, SC	A-4, A-2, A-6	0	0	54-77	52-76	43-70	30-50	22-33	5-12
	5-10	Gravelly loam, very gravelly loam	GC, CL, GC-GM	A-1, A-2, A-4	0	0-8	35-78	32-77	27-71	19-51	20-31	5-12
	10-22	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GC, GC-GM	A-1, A-2, A-4	0	8-16	26-63	22-62	19-57	13-41	20-31	5-12
	22-41	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SC, GP-GM, GW-GC	A-1, A-2	0	8-29	26-84	23-84	17-70	8-35	16-28	2-10
	41-60	Very gravelly loamy sand, extremely gravelly loamy sand	GP, GP-GM, GC-GM	A-1	0	0-22	18-55	15-53	11-43	4-17	0-21	NP-4
Snowslide, low precipitation--	0-8	Gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	0-9	53-76	51-75	43-68	30-49	23-31	7-12
	8-60	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GP-GM, GC-GM	A-1, A-2	0	0-22	19-61	16-59	11-50	7-33	17-31	2-12
114: Soen-----	0-7	Clay loam	CL, CH	A-6, A-7	0	0	100	100	87-94	67-74	39-51	19-25
	7-22	Silty clay loam	CH, CL	A-7	0	0	100	100	95-100	91-100	46-62	25-36
	22-60	Silt loam	CL	A-6	0	0	79-100	78-100	69-99	57-83	27-39	10-17
115: Soen-----	0-7	Clay loam	CL, CH	A-6, A-7	0	0	100	100	87-94	67-74	39-51	19-25
	7-22	Silty clay loam	CH, CL	A-7	0	0	100	100	95-100	91-100	46-62	25-36
	22-60	Silt loam	CL	A-6	0	0	79-100	78-100	70-100	59-86	27-39	10-17
Justesen-----	0-10	Loam	SC-SM, CL	A-4, A-6	0	0	82-100	81-100	69-91	48-66	24-35	7-12
	10-25	Loam, silty clay loam	CL	A-6, A-7	0	0	83-100	82-100	77-100	67-93	34-48	16-24
	25-60	Fine sandy loam, loam	CL	A-4, A-6	0	0	84-100	83-100	71-91	51-66	24-32	9-13

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
116: Sparmo-----	0-9	Silt loam	CL-ML, CL	A-6, A-4	0	0	77-100	76-100	69-96	55-78	24-33	7-12
	9-22	Silt loam, gravelly loam	CL-ML, CL	A-4	0	0	78-100	77-100	70-95	56-77	23-29	7-10
	22-29	Silt loam, gravelly loam	GC-GM, CL, GC	A-4	0	0	53-100	51-100	44-91	35-68	23-29	7-10
	29-40	Silt loam, gravelly loam	GC-GM, CL	A-4	0	0	53-100	51-100	46-95	37-77	23-29	7-10
	40-60	Very gravelly loam	GC, GM, GC-GM	A-2	0	0	36-55	33-53	27-48	19-34	16-26	2-9
117: Sparmo-----	0-9	Silt loam	CL-ML, CL	A-6, A-4	0	0	77-100	76-100	69-96	55-78	24-33	7-12
	9-22	Silt loam, gravelly loam	CL-ML, CL	A-4	0	0	78-100	77-100	70-95	56-77	23-29	7-10
	22-29	Silt loam, gravelly loam	GC-GM, CL, GC	A-4	0	0	53-100	51-100	44-91	35-68	23-29	7-10
	29-40	Silt loam, gravelly loam	GC-GM, CL	A-4	0	0	53-100	51-100	46-95	37-77	23-29	7-10
	40-60	Very gravelly loam	GC, GM, GC-GM	A-2	0	0	36-55	33-53	27-48	19-34	16-26	2-9
Bluedome-----	0-9	Loam	CL-ML, CL, SC-SM	A-4	0	0	78-100	77-100	65-90	45-65	21-30	4-9
	9-23	Loam, gravelly loam	CL, GC-GM	A-4	0	0	59-92	58-92	49-83	35-59	20-28	6-10
	23-24	Cemented material			---	---	---	---	---	---	---	---
	24-60	Extremely gravelly sandy loam	GP, GC-GM, GP-GC	A-1	0	0-15	15-33	11-30	8-24	4-13	16-25	2-7
118: Sparmo-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	77-100	76-100	69-96	55-78	24-33	7-12
	9-22	Silt loam, gravelly loam	CL-ML, CL	A-4	0	0	78-100	77-100	70-95	56-77	23-29	7-10
	22-29	Silt loam, gravelly loam	GC-GM, CL, GC	A-4	0	0	53-100	51-100	44-91	35-68	23-29	7-10
	29-40	Silt loam, gravelly loam	GC-GM, CL	A-4	0	0	53-100	51-100	46-95	37-77	23-29	7-10
	40-60	Very gravelly loam	GC, GM, GC-GM	A-2	0	0	36-55	33-53	27-48	19-34	16-26	2-9
Zer-----	0-2	Gravelly loam	GC-GM, SC	A-4, A-2, A-6	0	0	54-77	52-76	43-70	30-50	22-33	5-12
	2-8	Gravelly loam, very gravelly loam	GC, CL, GC-GM	A-1, A-2, A-4	0	0-8	35-78	32-77	27-71	19-50	20-31	5-12
	8-14	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GP-GC, SC	A-1, A-2	0	0	23-78	20-77	14-62	7-33	20-31	5-12
	14-25	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SC, GP-GM, GC-GM	A-1, A-2	0	8-29	26-84	23-84	17-70	8-35	16-28	2-10
	25-60	Very gravelly loamy sand, extremely gravelly loamy sand	GM, GP, GC-GM	A-1	0	8-29	20-57	17-55	13-45	4-18	0-21	NP-4

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
119: Splittop-----	0-3	Loam	CL	A-6	0	0	76-100	75-100	72-100	57-83	29-39	12-17
	3-8	Loam, silt loam	CL	A-6	0	0	76-100	75-100	72-100	68-98	30-39	13-19
	8-26	Loam, silt loam	CL	A-6	0	0	76-100	75-100	72-100	68-98	29-38	13-19
	26-32	Loam, silt loam	CL	A-6	0	0-9	76-100	75-100	72-100	60-86	29-38	13-19
	32-42	Unweathered bedrock			---	---	---	---	---	---	---	---
Atomic-----	0-15	Loam	CL	A-6	0	0	94-100	94-100	80-94	59-71	31-40	12-19
	15-34	Silt loam	CL	A-6	0	0	77-100	76-100	68-99	58-85	30-40	12-19
	34-46	Cobbly silt loam	CL	A-6	0-1	17-25	68-96	66-96	60-95	51-82	29-39	12-19
	46-56	Unweathered bedrock			---	---	---	---	---	---	---	---
120: Splittop-----	0-3	Loam	CL	A-6	0	0	76-100	75-100	72-100	57-83	29-39	12-17
	3-8	Loam, silt loam	CL	A-6	0	0	76-100	75-100	72-100	68-98	30-39	13-19
	8-26	Loam, silt loam	CL	A-6	0	0	76-100	75-100	72-100	68-98	29-38	13-19
	26-32	Loam, silt loam	CL	A-6	0	0-9	76-100	75-100	72-100	60-86	29-38	13-19
	32-42	Unweathered bedrock			---	---	---	---	---	---	---	---
Coffee-----	0-7	Silt loam	CL	A-4, A-6	0	0	82-100	82-100	72-99	60-84	27-40	9-18
	7-25	Silt loam	CL, CL-ML	A-6, A-4	0-5	0-5	82-100	82-100	70-100	58-86	25-40	7-19
	25-48	Silt loam, silty clay loam	CL	A-6, A-4, A-7	0-10	0-19	78-100	77-100	67-100	60-96	26-44	10-23
	48-58	Unweathered bedrock			---	---	---	---	---	---	---	---
121: Stan-----	0-2	Sandy loam	SC-SM, SC	A-2, A-4	0	0	74-100	73-100	53-80	25-42	21-31	4-10
	2-13	Loamy fine sand, loam	SC-SM, CL, CL-ML	A-4	0	0-4	75-100	74-100	62-91	43-66	21-31	4-10
	13-33	Fine sandy loam, gravelly loamy fine sand, gravelly sandy loam, gravelly loam	CL, GC-GM	A-2, A-4	0	0	50-100	48-100	40-91	28-66	20-29	4-10
	33-40	Fine sandy loam, gravelly loamy fine sand, gravelly sandy loam, gravelly loam	SC, GC-GM	A-2, A-4	0	0-3	51-100	49-100	37-81	18-44	18-26	4-9
	40-60	Very gravelly loamy sand	GP-GM, GC-GM, GP-GC	A-1	0	0-18	36-58	33-56	26-46	7-15	16-23	2-6

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
122: Stan-----	0-2	Sandy loam	SC-SM, SC	A-2, A-4	0	0	74-100	73-100	53-80	25-42	21-31	4-10
	2-13	Loamy fine sand, loam	SC-SM, CL, CL-ML	A-4	0	0-4	75-100	74-100	62-91	43-66	21-31	4-10
	13-33	Fine sandy loam, gravelly loamy fine sand, gravelly sandy loam, gravelly loam	CL, GC-GM	A-2, A-4	0	0	50-100	48-100	40-91	28-66	20-29	4-10
	33-40	Fine sandy loam, gravelly loamy fine sand, gravelly sandy loam, gravelly loam	SC, GC-GM	A-2, A-4	0	0-3	51-100	49-100	37-81	18-44	18-26	4-9
	40-60	Very gravelly loamy sand	GP-GM, GC-GM, GP-GC	A-1	0	0-18	36-58	33-56	26-46	7-15	16-23	2-6
Breitenbach-----	0-9	Loam	SC-SM, CL	A-4, A-6	0	0	74-100	73-100	61-92	43-67	24-35	7-13
	9-17	Gravelly loam, gravelly sandy loam, sandy loam, loam	GC-GM, SC	A-6, A-4, A-2	0	0	50-81	47-81	36-66	23-43	24-33	7-12
	17-30	Extremely gravelly sandy loam, very gravelly sandy loam, extremely gravelly loam, very gravelly loam	GP-GC, GC	A-2	0	0-19	18-49	14-46	10-37	5-19	21-29	6-10
	30-34	Extremely gravelly sandy loam, very gravelly sandy loam, extremely gravelly loam, very gravelly loam	GC, GP-GC	A-2	0	0-18	18-50	15-48	11-38	5-20	21-29	6-10
	34-60	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand	GP, GP-GC	A-1	0	0-26	16-31	12-28	9-23	3-9	0-21	NP-4

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
123: Stan, loamy fine sand surface---	0-4	Loamy fine sand	SC-SM, SC	A-2	0	0	74-100	73-100	67-99	16-30	21-31	4-10
	4-15	Loamy fine sand, loam	SC-SM, SC, CL-ML	A-4	0	0-4	75-100	74-100	62-91	43-66	21-31	4-10
	15-29	Fine sandy loam, gravelly loamy fine sand, gravelly sandy loam, gravelly loam	SC-SM, SC, GC-GM	A-2, A-4	0	0	50-100	48-100	43-97	18-46	20-29	4-10
	29-40	Fine sandy loam, gravelly loamy fine sand, gravelly sandy loam, gravelly loam	SC, GC-GM	A-2, A-4	0	0-3	51-100	49-100	37-81	18-44	18-26	4-9
	40-60	Very gravelly loamy sand	GP-GM, GC-GM, GP-GC	A-1	0	0-18	36-58	33-56	26-46	7-15	16-23	2-6
Stan-----	0-2	Sandy loam	SC, SC-SM	A-2, A-4	0	0	74-100	73-100	53-80	25-42	21-31	4-10
	2-13	Loamy fine sand, loam	CL, SC-SM, CL-ML	A-4	0	0-4	75-100	74-100	62-91	43-66	21-31	4-10
	13-33	Gravelly loamy fine sand, gravelly sandy loam, gravelly loam, fine sandy loam	CL, GC-GM	A-2, A-4	0	0	50-100	48-100	40-91	28-66	20-29	4-10
	33-40	Fine sandy loam, gravelly loamy fine sand, gravelly sandy loam, gravelly loam	SC, GC-GM	A-4, A-2	0	0-3	51-100	49-100	37-81	18-44	18-26	4-9
	40-60	Very gravelly loamy sand	GW-GM, GP-GC	A-1	0	0-18	36-58	33-56	26-46	7-15	16-23	2-6
124: Starlite-----	0-14	Loam	CL-ML, CL	A-4	0	0	100	100	96-100	72-79	21-31	4-10
	14-32	Loam, very fine sandy loam, silty clay loam, silt loam	CL, CL-ML	A-6, A-7, A-4	0	0	100	100	93-100	70-98	20-47	5-26
	32-37	Loam, very fine sandy loam, silty clay loam, silt loam	CL, CL-ML	A-7, A-4, A-6	0	0	100	100	75-100	71-99	22-48	5-26
	37-47	Loam, very fine sandy loam, silty clay loam, silt loam	CL, CL-ML	A-6, A-4, A-7	0	0	100	100	92-100	83-100	20-46	5-26
	47-60	Loam, very fine sandy loam, silt loam	SM, CL-ML	A-4	0	0	75-100	74-100	70-100	41-60	17-23	3-6

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
125: Techick-----	0-4	Loam	CL, SC-SM	A-4, A-6	0	0	77-100	76-100	63-93	44-68	22-37	6-13
	4-12	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0	78-100	77-100	67-96	52-77	37-48	17-24
	12-25	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0	78-100	77-100	67-96	52-77	37-48	17-24
	25-46	Loam, gravelly loam, sandy loam	CL, SC-SM	A-4, A-6	0	0	71-92	70-92	58-85	40-62	21-33	6-13
	46-60	Extremely gravelly sand, extremely gravelly loamy sand, very gravelly sand	GP	A-1	0	0-15	26-45	23-42	17-33	1-4	0-17	NP-1
Soelberg-----	0-2	Loam	CL	A-6	0	0	81-100	81-100	69-92	50-69	29-40	12-17
	2-30	Loam, clay loam	CL	A-6, A-7	0	0	76-100	75-100	67-98	51-77	37-48	17-24
	30-34	Extremely gravelly loamy coarse sand, extremely gravelly loamy sand, extremely gravelly sand, extremely gravelly coarse sand, very gravelly coarse sand	GP, GP-GM	A-1	0	0-9	15-34	12-31	7-18	3-8	0-14	NP
	34-60	Extremely gravelly loamy coarse sand, extremely gravelly loamy sand, extremely gravelly sand, extremely gravelly coarse sand, very gravelly coarse sand	GP	A-1	0	5-9	15-34	11-31	8-24	1-2	0-14	NP
126: Techick-----	0-4	Loam	CL, SC-SM	A-4, A-6	0	0	77-100	76-100	63-93	44-68	22-37	6-13
	4-12	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0	78-100	77-100	67-96	52-77	37-48	17-24
	12-25	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0	78-100	77-100	67-96	52-77	37-48	17-24
	25-46	Loam, gravelly loam, sandy loam	CL, SC-SM	A-4, A-6	0	0	71-92	70-92	58-85	40-62	21-33	6-13
	46-60	Extremely gravelly sand, extremely gravelly loamy sand, very gravelly sand	GP	A-1	0	0-15	26-45	23-42	17-33	1-4	0-17	NP-1

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
126: Soelberg-----	0-10	Loam	CL	A-6	0	0	81-100	81-100	69-92	50-69	29-40	12-17
	10-28	Loam, clay loam	CL	A-6, A-7	0	0	76-100	75-100	65-96	51-77	37-48	17-24
	28-36	Gravelly loam	GC, GC-GM, CL	A-4, A-6	0	3-8	54-76	52-75	44-70	35-53	21-31	6-12
	36-40	Extremely gravelly loamy coarse sand, extremely gravelly loamy sand, extremely gravelly sand, extremely gravelly coarse sand, very gravelly coarse sand	GP, GP-GM	A-1	0	0-9	15-34	12-31	7-18	3-8	0-14	NP
	40-60	Extremely gravelly loamy coarse sand, extremely gravelly loamy sand, extremely gravelly sand, extremely gravelly coarse sand, very gravelly coarse sand	GP	A-1	0	5-9	15-34	11-31	8-24	1-2	0-14	NP
Lesbut-----	0-3	Gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	0	52-72	50-71	42-66	29-49	24-36	7-15
	3-13	Gravelly loam	GC, GC-GM	A-4, A-6, A-2	0	0-6	52-72	50-71	42-66	29-49	24-36	7-15
	13-19	Very gravelly sandy loam	GC, GC-GM	A-2	0	10-19	32-57	29-55	21-45	13-30	21-33	4-12
	19-60	Extremely gravelly loamy sand, extremely cobbly coarse sand, extremely cobbly sand, extremely gravelly coarse sand, extremely gravelly loamy coarse sand, extremely gravelly sand	GW, GP-GM	A-1	0	9-33	12-36	8-33	6-26	2-10	0-19	NP-2
127: Techicknot-----	0-4	Loam	CL	A-6	0	0	91-100	90-100	79-92	58-69	31-39	13-17
	4-29	Loam, clay loam, silty clay loam	CL	A-6, A-7	0	0	83-100	82-100	71-95	54-74	37-48	17-24
	29-48	Loam, silt loam, silty clay loam, clay loam	CL, SC	A-6, A-7	0	0	78-100	77-100	65-92	45-66	33-43	15-21
	48-60	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	78-100	77-100	70-100	59-87	29-40	13-21

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
127:												
Atom-----	0-7	Silt loam	CL	A-6, A-7	0	0	90-100	90-100	86-100	81-99	31-42	12-19
	7-15	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	90-100	90-100	77-100	73-98	29-45	11-23
	15-60	Loam, silt loam, clay loam, silty clay loam	CL-ML, ML	A-6, A-7, A-4	0	0	91-100	91-100	82-100	78-100	25-45	5-15
Nargon-----	0-5	Loam	CL, SC	A-6	0-5	0-9	82-100	81-100	69-93	49-69	28-39	11-17
	5-15	Clay loam, silt loam	CL	A-6, A-7	0	0-5	82-100	82-100	67-93	51-72	32-43	13-21
	15-22	Loam, stony loam, gravelly silt loam	CL, GC	A-6	2-18	3-18	65-96	63-96	54-89	39-66	27-36	12-17
	22-32	Unweathered bedrock			---	---	---	---	---	---	---	---
128:												
Tenno-----	0-4	Loam	CL, CL-ML	A-4, A-6	0-24	0	100	100	82-92	57-67	21-35	4-12
	4-13	Loam	CL, CL-ML	A-4, A-6	0-26	0	100	100	82-92	57-67	20-31	4-12
	13-18	Loam	CL, CL-ML	A-4, A-6	0-24	0	100	100	82-92	57-67	20-31	4-12
	18-28	Unweathered bedrock			---	---	---	---	---	---	---	---
Splittop-----	0-3	Silt loam	CL	A-6	0	0	76-100	75-100	72-100	67-96	29-39	12-17
	3-30	Loam, silt loam	CL	A-6	0	0	76-100	75-100	72-100	58-84	30-39	13-19
	30-34	Loam, silt loam	CL	A-6	0	0	76-100	75-100	72-100	58-84	29-38	13-19
	34-44	Unweathered bedrock			---	---	---	---	---	---	---	---
Lava flows-----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
129:												
Tenno-----	0-4	Loam	CL, CL-ML	A-4, A-6	0-24	0	100	100	82-92	57-67	21-35	4-12
	4-13	Loam	CL, CL-ML	A-4, A-6	0-26	0	100	100	82-92	57-67	20-31	4-12
	13-18	Loam	CL, CL-ML	A-4, A-6	0-24	0	100	100	82-92	57-67	20-31	4-12
	18-28	Unweathered bedrock			---	---	---	---	---	---	---	---
Splittop-----	0-4	Loam	CL	A-6	0	0	76-100	75-100	72-100	57-83	29-39	12-17
	4-30	Loam, silt loam	CL	A-6	0	0	76-100	75-100	72-100	58-84	30-39	13-19
	30-40	Unweathered bedrock			---	---	---	---	---	---	---	---
McCarey-----	0-4	Fine sandy loam	SC-SM, SC	A-4, A-6	0	0	82-100	81-100	72-98	35-49	22-37	6-13
	4-17	Clay loam, silty clay loam	CL	A-6, A-7	0	0	84-100	83-100	70-98	53-78	33-48	13-24
	17-21	Silt loam, loam	CL	A-4, A-6	0	0	84-100	84-100	70-94	50-70	24-37	9-17
	21-31	Unweathered bedrock			---	---	---	---	---	---	---	---



## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
130:												
Thornock-----	0-5	Stony loam	SC-SM, CL	A-6, A-4	9-39	0	78-98	77-98	65-90	45-65	22-33	6-12
	5-10	Silt loam	CL	A-6	0	0	75-90	74-90	68-86	57-73	31-40	13-16
	10-16	Cobbly loam, loam	SC-SM, CL	A-6, A-4	0	0-30	72-100	71-100	60-94	43-71	18-30	4-12
	16-26	Unweathered bedrock			---	---	---	---	---	---	---	---
Portino-----	0-4	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	71-81	20-31	4-12
	4-29	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	94-100	86-96	18-30	4-12
	29-39	Unweathered bedrock			---	---	---	---	---	---	---	---
131:												
Thornock-----	0-5	Stony loam	SC-SM, CL	A-6, A-4	9-39	0	78-98	77-98	65-90	45-65	22-33	6-12
	5-10	Silt loam	CL	A-6	0	0	75-90	74-90	68-86	57-73	31-40	13-16
	10-16	Cobbly loam, loam	GC-GM, CL	A-6, A-4	0	0-30	72-100	71-100	60-94	43-71	18-30	4-12
	16-26	Unweathered bedrock			---	---	---	---	---	---	---	---
Portino-----	0-4	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	71-81	20-31	4-12
	4-29	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	94-100	86-96	18-30	4-12
	29-39	Unweathered bedrock			---	---	---	---	---	---	---	---
132:												
Thosand-----	0-3	Silt loam	CL	A-6, A-7	0	0	100	100	89-99	73-83	31-43	10-17
	3-16	Loam, silt loam, gravelly sandy loam	GC, CL	A-7, A-6	0	0	55-100	53-100	47-99	39-83	31-43	10-17
	16-41	Gravelly sandy loam, loam, silt loam	CL, GC	A-6, A-7	0	0	55-100	53-100	46-94	35-74	30-42	12-18
	41-52	Gravelly sandy loam, loam, silt loam	GC-GM, SC	A-2, A-4, A-6	0	0	58-100	56-100	40-83	19-47	20-33	6-15
	52-60	Extremely gravelly loamy coarse sand	GP, GW-GC	A-1	0	0	16-30	12-27	6-15	2-6	0-21	NP-4
San crane-----	0-2	Moderately decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	2-5	Silt loam	CL, ML	A-6, A-7	0	0	82-100	81-100	72-99	59-84	31-46	10-18
	5-31	Loam	CL	A-6	0	0	82-100	81-100	71-94	54-73	31-40	12-17
	31-60	Very gravelly loamy sand, extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0	0	16-43	12-41	7-25	3-11	0-19	NP-2

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
133:												
Truesdale-----	0-6	Loam	CL, SC-SM	A-4, A-6	0	0	83-100	83-100	69-92	48-66	22-33	6-12
	6-15	Loam	SC-SM, CL	A-6, A-4	0	0	83-100	83-100	69-92	48-66	22-33	6-12
	15-21	Fine sandy loam	SC, SC-SM	A-4, A-6	0	0	85-100	84-100	75-97	35-47	21-31	6-12
	21-25	Cemented fine sandy loam	SC-SM, SC	A-6, A-4	0	0	85-100	84-100	75-97	35-47	21-31	6-12
	25-54	Loam, silt loam	CL, CL-ML	A-4, A-6	0	0	82-100	82-100	72-97	58-79	20-30	6-12
	54-57	Cobbly loam, loam	CL-ML, CL, SC-SM	A-4	0	0-17	74-100	73-100	61-91	42-65	18-27	4-10
	57-67	Unweathered bedrock			---	---	---	---	---	---	---	---
Minidoka-----	0-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	77-100	76-100	72-100	66-95	22-35	6-12
	10-29	Silt loam	CL, CL-ML	A-4, A-6	0	0	77-100	76-100	72-100	66-95	21-31	6-12
	29-46	Cemented material			---	---	---	---	---	---	---	---
	46-57	Silt loam, gravelly silt loam	CL, GC-GM	A-6, A-4	0	0	56-100	54-100	52-100	47-95	21-31	6-12
	57-64	Silt loam, gravelly silt loam	CL, GC-GM, GC	A-4, A-6	0	0	56-100	54-100	52-100	47-95	20-30	6-12
134:												
Vitale-----	0-3	Very cobbly loam	GC, GC-GM, CL	A-2, A-4, A-6	0-5	32-39	37-78	34-77	28-73	20-54	24-40	7-17
	3-10	Very cobbly loam	GC, CL	A-2, A-6	0-5	16-37	39-79	36-78	31-72	22-54	27-37	12-17
	10-24	Very cobbly clay loam, very cobbly loam	GC, CH	A-6, A-7, A-2	0-5	31-64	38-79	35-78	30-74	23-58	38-51	18-25
	24-33	Very cobbly clay loam, very cobbly loam	GC, CL	A-7, A-2, A-6	0-8	30-64	39-79	36-78	31-78	22-62	27-45	12-25
	33-43	Unweathered bedrock			---	---	---	---	---	---	---	---
Blackspar-----	0-6	Very cobbly loam	GC, CL, GC-GM	A-2, A-4, A-6	0	16-49	38-87	35-87	29-81	20-59	22-35	6-13
	6-12	Very cobbly loam, extremely cobbly loam	GC, CL	A-2, A-6	0	37-59	27-80	24-79	20-75	15-57	30-40	13-21
	12-22	Unweathered bedrock			---	---	---	---	---	---	---	---
135:												
Whitecloud-----	0-11	Gravelly loam	GC-GM, CL, GC	A-4, A-6	0	0-8	59-78	57-77	48-70	35-51	22-33	6-12
	11-20	Very gravelly sandy loam, extremely gravelly sandy loam	GC, GP-GM, GP-GC	A-1, A-2	0	4-14	23-52	20-50	15-41	7-22	18-27	3-10
	20-60	Extremely gravelly loamy sand	GP-GM, GP-GC, GP	A-1	0	9-13	21-36	17-34	13-27	4-9	0-21	NP-4

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
136: Whitecloud-----	0-12	Gravelly loam	GC-GM, CL, GC	A-4, A-6	0	0-8	59-78	57-77	48-70	35-51	22-33	6-12
	12-22	Very gravelly sandy loam, extremely gravelly sandy loam	GC, GP-GM, GC-GM	A-1, A-2	0	4-14	23-52	20-50	15-41	7-22	18-27	3-10
	22-60	Extremely gravelly loamy sand	GP-GM, GP-GC, GP	A-1	0	0-14	21-36	17-34	13-27	4-9	0-21	NP-4
Sanfelipe-----	0-10	Gravelly loam	GC, GC-GM, SC	A-4, A-6	0	0-9	61-74	59-73	50-67	35-49	24-35	7-13
	10-29	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly loam	GC, GC-GM	A-2	0	0-18	28-52	25-50	21-46	15-34	23-33	7-13
	29-60	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly loam	GM, GC-GM, GP-GM	A-1	0	0-24	30-54	26-52	20-43	10-24	0-23	NP-6
137: Zeale-----	0-10	Gravelly loam	ML, GC	A-6, A-4	0-5	0-5	55-81	53-81	46-72	35-52	29-37	9-12
	10-60	Very gravelly loam	GC	A-2, A-4, A-6	0-5	0-16	34-61	31-59	26-56	19-41	26-39	9-17
Zeale, high precipitation--	0-14	Gravelly loam	ML, GC	A-6, A-4	0-5	0-5	55-81	53-81	46-72	35-52	29-37	9-12
	14-60	Very gravelly loam	GC	A-2, A-6, A-4	0-5	0-16	34-61	31-59	26-56	19-41	26-39	9-17
138: Zeale-----	0-10	Gravelly loam	ML, GC	A-6, A-4	0-5	0-5	55-81	53-81	46-72	35-52	29-37	9-12
	10-60	Very gravelly loam	GC	A-2, A-4, A-6	0-5	0-16	34-61	31-59	26-56	19-41	26-39	9-17
Zeale, high precipitation--	0-14	Gravelly loam	ML, GC	A-6, A-4	0-5	0-5	55-81	53-81	46-72	35-52	29-37	9-12
	14-60	Very gravelly loam	GC	A-2, A-4, A-6	0-5	0-16	34-61	31-59	26-56	19-41	26-39	9-17
139: Zeale-----	0-15	Gravelly loam	ML, GC	A-6, A-4	0-5	0-5	55-81	53-81	46-72	35-52	29-37	9-12
	15-60	Very gravelly loam	GC	A-2, A-4, A-6	0-5	0-16	34-61	31-59	26-56	19-41	26-39	9-17

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
139: Coalkiln-----	0-1	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	1-5	Very gravelly loam	GM	A-2	5-9	9-26	41-58	39-56	33-50	23-35	31-44	7-10
	5-9	Gravelly loam	ML, GC-GM, GC	A-4, A-2	0-5	2-11	54-81	52-81	44-72	31-52	26-36	7-10
	9-17	Very gravelly loam	GC, GC-GM	A-2, A-6, A-4	0-5	9-29	41-69	38-68	32-62	23-45	24-35	7-12
	17-41	Very gravelly loam, extremely gravelly loam	GC, GP-GC	A-2	0	9-26	13-58	10-56	8-51	6-35	27-35	12-16
	41-60	Extremely gravelly loam, very gravelly loam	GC, GP-GC	A-2	0-5	18-40	15-58	11-56	9-51	7-35	22-30	7-12
Jimbee-----	0-3	Gravelly loam	GC, GC-GM, CL	A-4, A-6, A-2	0-5	0-9	51-82	49-82	41-76	29-56	24-36	7-15
	3-18	Very gravelly loam	GC, GC-GM	A-2	0-25	0-17	33-64	30-63	25-58	18-35	23-36	7-15
	18-28	Unweathered bedrock			---	---	---	---	---	---	---	---
140: Zeebar, cool----	0-4	Gravelly loam	CL, GC, SC	A-6	0-5	0-5	58-83	57-83	48-77	35-57	31-40	11-18
	4-12	Gravelly loam, very gravelly loam	GC	A-2, A-6	0	0-8	43-76	41-75	35-71	26-54	29-40	12-19
	12-50	Very gravelly clay loam, extremely gravelly clay loam	GC, GP-GC	A-2, A-6	8-15	0	22-62	18-60	15-56	11-44	30-40	13-21
	50-60	Extremely gravelly loam	GP-GC, GC	A-2	0-8	8-35	16-47	12-44	10-42	7-31	24-35	9-17
Zeebar-----	0-3	Gravelly loam	CL, GC, SC	A-6	0-5	0-5	58-83	57-83	48-77	35-57	31-40	11-18
	3-19	Gravelly loam, very gravelly loam	GC	A-2, A-6	0	0-8	43-76	41-75	35-71	26-54	29-40	12-19
	19-41	Very gravelly clay loam, extremely gravelly clay loam	GC, GP-GC	A-2, A-6	8-15	0	22-62	18-60	15-56	11-44	30-40	13-21
	41-60	Extremely gravelly loam	GP-GC, GC	A-2	0-8	8-35	16-47	12-44	10-42	7-31	24-35	9-17
141: Zeebar-----	0-4	Gravelly loam	CL, GC, SC	A-6	0-5	0-5	58-83	57-83	48-77	35-57	31-40	11-18
	4-10	Gravelly loam, very gravelly loam	GC, CL	A-2, A-6	0	0-8	35-74	32-73	27-69	20-52	29-40	12-19
	10-28	Gravelly loam	GC, CL	A-6	0	0-15	54-78	52-77	46-73	35-57	30-40	13-19
	28-37	Very gravelly clay loam, extremely gravelly clay loam	GC, GP-GC	A-2, A-6	0-8	0	20-55	17-53	15-49	11-39	33-40	17-21
	37-60	Extremely gravelly loam	GP-GC, GC	A-2	0-8	8-35	16-43	12-41	10-38	7-28	24-35	9-17

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
141: Parvis-----	0-8	Gravelly loam	GC, CL	A-6, A-2	0	0-9	50-81	48-81	40-75	29-56	31-40	11-18
	8-28	Very flaggy loam	GC, CL	A-6, A-2	40-52	0	42-87	40-86	34-80	24-60	29-40	12-18
	28-43	Very flaggy clay loam, extremely flaggy clay loam	CL, GC	A-7, A-2, A-6	40-67	0	45-100	42-100	37-94	29-74	37-45	19-24
	43-60	Extremely flaggy clay loam, very flaggy clay loam	GC, CL	A-2, A-6, A-7	40-67	0	36-100	33-100	29-94	22-74	37-45	19-24
Howcan-----	0-4	Loam	SC-SM, ML	A-4, A-6	2-6	2-19	80-96	80-96	64-91	45-68	25-40	6-17
	4-10	Extremely cobbly loam	GC-GM, GC	A-2, A-6, A-4	0-19	35-58	29-66	26-65	21-62	15-46	22-40	6-17
	10-38	Extremely stony loam	GC, CL	A-2, A-6	9-46	18-46	24-81	21-80	18-74	14-55	30-39	13-17
	38-54	Extremely stony sandy loam	SC, GC	A-2, A-6, A-4	25-50	17-50	47-100	44-100	32-81	16-43	24-35	9-16
	54-64	Unweathered bedrock			---	---	---	---	---	---	---	---
142: Zer-----	0-7	Gravelly loam	GC-GM, SC	A-4, A-2, A-6	0	0	54-77	52-76	43-70	30-50	22-33	5-12
	7-38	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GC, GC-GM	A-6, A-2, A-4	0	8-16	26-63	22-62	19-57	13-41	20-31	5-12
	38-60	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SC, GP-GM, GW-GC	A-1, A-2, A-4	0	8-29	26-84	23-84	17-70	8-38	16-28	2-10
143: Zer-----	0-8	Gravelly loam	GC	A-4, A-2, A-6	0	0	49-73	46-72	39-67	28-50	27-39	9-17
	8-20	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GC, GP-GC	A-6, A-2, A-4	0	9-17	24-61	21-60	17-55	12-40	19-30	5-12
	20-60	Very gravelly loamy sand, extremely gravelly loamy sand	GP, GP-GC, GW-GC	A-1, A-2	0	0-24	17-52	13-50	10-42	2-12	20-28	6-10

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
144: Zer-----	0-3	Very gravelly loam	GC	A-2	0	9-17	40-60	37-58	32-52	23-35	27-35	10-13
	3-37	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GC, GP-GC	A-2	0	8-16	23-67	20-66	15-54	10-35	23-33	7-13
	37-60	Very gravelly loamy sand, extremely gravelly loamy sand	GP, GP-GM, GC-GM	A-1	0	0-23	18-54	14-52	11-42	4-16	0-20	NP-4
145: Zer-----	0-7	Gravelly loam	GC, SC	A-2, A-6	0	0	53-76	51-75	44-68	31-49	27-35	10-13
	7-26	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GC, GC-GM	A-2, A-4, A-6	0	8-16	25-67	21-66	18-60	13-44	23-33	7-13
	26-60	Very gravelly loamy sand, extremely gravelly loamy sand	GP, GP-GM, GC-GM	A-1	0	0-23	18-54	14-52	11-42	4-16	0-20	NP-4
146: Zer-----	0-2	Gravelly loam	GC-GM, SC	A-4, A-2, A-6	0	0	54-77	52-76	43-70	30-50	22-33	5-12
	2-8	Gravelly loam, very gravelly loam	GC, CL, GC-GM	A-6, A-2, A-4	0	0-8	35-78	32-77	27-71	19-51	20-31	5-12
	8-18	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	GC, GC-GM	A-6, A-2, A-4	0	8-16	26-68	22-67	19-62	13-45	20-31	5-12
	18-60	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SC, GP-GM, GW-GC	A-1, A-2	0	8-29	26-84	23-84	17-70	8-35	16-28	2-10

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
146: Snowslide-----	0-10	Gravelly loam	GC, GC-GM	A-2, A-4, A-6	0	0-9	53-76	51-75	43-68	30-49	23-31	7-12
	10-34	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GP-GC	A-1, A-2	0	7-22	19-61	16-60	14-53	10-35	22-28	6-10
	34-60	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GC, GP-GM, GC-GM	A-1, A-2	0	8-22	19-61	16-59	13-55	9-35	17-31	2-12
147: Zer-----	0-3	Gravelly loam	GC-GM, SC	A-4, A-2, A-6	0	0	54-77	52-76	43-70	30-50	22-33	5-12
	3-17	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	CL, GP-GC, SC	A-6, A-2, A-4	0	0	23-78	20-77	16-71	11-51	20-31	5-12
	17-33	Gravelly sandy loam, gravelly loam, very gravelly loam, extremely gravelly sandy loam, very gravelly sandy loam	SC, GP-GM, GC-GM	A-1, A-2	0	8-29	26-84	23-84	17-70	8-35	16-28	2-10
	33-60	Very gravelly loamy sand, extremely gravelly loamy sand	GM, GP, GC-GM	A-1	0	8-29	20-57	17-55	13-45	4-18	0-21	NP-4
Whiteknob-----	0-3	Gravelly loam	GC-GM, CL, GC	A-4, A-2, A-6	0	0	55-84	53-83	44-76	31-55	22-33	6-12
	3-10	Loam, gravelly loam	CL, GC-GM, GC	A-4, A-2, A-6	0	0	55-100	53-100	44-92	31-66	21-31	6-12
	10-12	Very gravelly loam, extremely gravelly sandy loam	GW, GC-GM	A-1	0	0	10-38	6-35	5-32	4-22	17-24	2-6
	12-60	Extremely gravelly loamy coarse sand, extremely gravelly sand, very gravelly loamy coarse sand, very gravelly sand	GP-GC, GW	A-1	0	0	10-38	6-35	3-20	1-8	0-22	NP-4

## Engineering Soil Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
148: Mooretown-----	0-3	Loam	SC-SM, ML, CL	A-6, A-4	0	0	74-100	73-100	61-92	43-67	26-39	7-13
	3-24	Loam, sandy loam	SC-SM, CL	A-6, A-4	0	0	75-100	74-100	62-92	43-66	22-35	6-12
	24-48	Loam, sandy loam	CL, SC-SM	A-6, A-4	0	0	75-100	74-100	62-92	43-66	22-35	6-12
	48-60	Extremely gravelly loamy sand, very gravelly sandy loam, very gravelly loamy sand	GP, GC-GM, GP-GC	A-2, A-1	0	0-16	16-53	12-51	9-43	2-13	16-25	2-7
Blackfoot-----	0-19	Loam	CL	A-6	0	0	100	100	86-92	61-67	27-39	10-15
	19-36	Loam	CL	A-6	0	0	100	100	85-93	62-70	28-40	12-18
	36-60	Stratified fine sandy loam to silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	75-95	45-75	20-35	5-15
Borah-----	0-4	Loam	CL, SC-SM, CL-ML	A-4	0	0	81-100	80-100	67-91	47-65	21-33	4-10
	4-12	Loam	CL, SC-SM, CL-ML	A-4	0	0	76-100	75-100	63-91	44-65	21-31	4-10
	12-60	Extremely gravelly loamy coarse sand, extremely gravelly coarse sand	GP, GP-GM	A-1	0	0	15-28	11-25	6-16	3-7	0-21	NP-3
149: Drage, cool-----	0-14	Gravelly loam	CL, GC, SC	A-2, A-6	0	0-9	54-82	52-81	44-76	31-57	27-40	10-17
	14-30	Very gravelly clay loam, very cobbly clay loam	GC	A-6, A-2, A-7	0-5	25-39	46-78	44-77	38-73	29-57	38-47	19-25
	30-60	Extremely cobbly clay loam, extremely cobbly sandy loam, extremely cobbly loam	GC, GP-GC	A-2	5-9	32-50	30-53	27-51	19-48	8-29	20-44	6-25
150: Vitale-----	0-6	Very cobbly loam	GC	A-6, A-2	0-5	32-45	37-71	34-69	29-65	20-48	27-40	10-17
	6-15	Very cobbly clay loam, very cobbly loam	CH, GC	A-2, A-6, A-7	0-8	31-64	45-79	42-78	33-74	24-58	31-51	12-25
	15-23	Very cobbly clay loam, very cobbly loam	GC, CL	A-7, A-2, A-6	0-8	30-64	45-79	43-78	36-78	26-62	27-45	12-25
	23-33	Unweathered bedrock			---	---	---	---	---	---	---	---
Blackspar-----	0-7	Very cobbly loam	CL, GC-GM, GC	A-6, A-2, A-4	0	16-49	38-100	35-100	29-93	20-68	22-35	6-13
	7-17	Very cobbly loam, extremely cobbly loam	CL, GC	A-2, A-6	0	30-54	33-89	30-88	25-84	19-64	30-40	13-21
	17-27	Unweathered bedrock			---	---	---	---	---	---	---	---



Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the mineral or saturated organic surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
1: Arco-----	0-4	20-27	1.20-1.30	1.41-14.11	0.17-0.19	0.0-2.9	2.0-4.0	.32	.32	5	4L	86
	4-26	22-32	1.20-1.50	1.41-4.23	0.17-0.19	3.0-5.9	0.0-1.0	.43	.43			
	26-60	18-34	1.20-1.50	1.41-14.11	0.12-0.21	3.0-5.9	0.0-0.5	.43	.43			
2: Atom-----	0-9	18-27	1.15-1.35	4.00-14.11	0.19-0.21	3.0-5.9	1.0-2.0	.43	.49	5	4L	86
	9-33	18-35	1.20-1.50	1.41-4.23	0.12-0.15	3.0-5.9	0.0-0.5	.43	.49			
	33-60	25-35	1.20-1.35	1.41-4.23	0.09-0.13	3.0-5.9	0.0-0.5	.43	.49			
3: Atom-----	0-3	18-27	1.15-1.35	4.00-14.11	0.19-0.21	3.0-5.9	1.0-2.0	.43	.49	5	4L	86
	3-10	27-33	1.15-1.35	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.43			
	10-29	18-35	1.20-1.50	1.41-4.23	0.12-0.17	3.0-5.9	0.0-0.5	.43	.49			
	29-60	25-35	1.20-1.35	1.41-4.23	0.03-0.14	3.0-5.9	0.0-0.5	.43	.49			
4: Atom-----	0-3	18-27	1.15-1.35	4.00-14.11	0.19-0.21	3.0-5.9	1.0-2.0	.43	.49	5	4L	86
	3-10	27-33	1.15-1.35	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.43			
	10-29	18-35	1.20-1.50	1.41-4.23	0.12-0.17	3.0-5.9	0.0-0.5	.43	.49			
	29-60	25-35	1.20-1.35	1.41-4.23	0.03-0.14	3.0-5.9	0.0-0.5	.43	.49			
Splittop-----	0-3	18-25	1.20-1.40	4.00-14.11	0.16-0.19	0.0-2.9	1.0-2.0	.37	.37	2	6	48
	3-30	20-27	1.20-1.40	4.00-14.11	0.14-0.18	0.0-2.9	0.5-1.0	.37	.37			
	30-34	20-27	1.20-1.40	4.00-14.11	0.06-0.12	0.0-2.9	0.0-0.5	.20	.43			
	34-44	---	---	---	---	---	---	---	---			
5: Bealand-----	0-5	10-25	1.20-1.40	4.00-14.11	0.07-0.19	0.0-2.9	1.0-2.0	.20	.32	5	5	56
	5-10	10-20	1.30-1.50	4.00-14.11	0.07-0.19	0.0-2.9	0.5-1.0	.20	.37			
	10-39	10-18	1.40-1.60	4.00-14.11	0.14-0.16	0.0-2.9	0.0-0.5	.15	.43			
	39-60	10-18	1.40-1.60	4.00-14.11	0.08-0.10	0.0-2.9	0.0-0.5	.15	.43			
Zeale-----	0-14	15-18	1.20-1.40	4.00-14.11	0.11-0.16	0.0-2.9	2.0-4.0	.20	.37	2	5	56
	14-60	15-25	1.40-1.55	4.00-14.11	0.03-0.10	0.0-2.9	0.5-2.0	.15	.37			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
6: Blackfoot-----	0-7	16-22	1.20-1.40	4.00-14.11	0.16-0.18	0.0-2.9	1.0-3.0	.37	.37	5	4L	86
	7-13	18-26	1.25-1.50	4.00-14.11	0.16-0.18	0.0-2.9	0.5-2.0	.43	.43			
	13-26	30-38	1.25-1.40	1.41-4.23	0.18-0.21	3.0-5.9	0.0-0.5	.32	.32			
	26-48	18-26	1.25-1.50	4.00-14.11	0.16-0.18	0.0-2.9	0.5-2.0	.43	.43			
	48-60	30-38	1.25-1.40	1.41-4.23	0.18-0.21	3.0-5.9	0.0-0.5	.32	.32			
7: Bluedome-----	0-3	8-14	1.40-1.50	4.00-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.32	.37	2	4L	86
	3-36	10-16	1.50-1.60	4.00-14.11	0.10-0.19	0.0-2.9	0.0-0.5	.32	.37			
	36-40	---	---	0.01-0.42	0.00-0.00	---	---	---	---			
	40-60	5-12	1.60-1.70	141.00-705.00	0.00-0.00	0.0-2.9	0.0-0.5	.10	.20			
8: Bluedome-----	0-11	8-14	1.40-1.50	4.00-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.32	.37	2	4L	86
	11-28	10-16	1.50-1.60	4.00-14.11	0.10-0.19	0.0-2.9	0.0-0.5	.32	.37			
	28-31	---	---	0.01-0.42	0.00-0.00	---	---	---	---			
	31-60	5-12	1.60-1.70	141.00-705.00	0.00-0.00	0.0-2.9	0.0-0.5	.10	.20			
McCaleb-----	0-12	14-18	1.35-1.45	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.37	.37	4	4L	86
	12-46	14-18	1.45-1.55	4.00-14.11	0.15-0.17	0.0-2.9	0.0-0.5	.37	.37			
	46-60	14-18	1.45-1.55	4.00-14.11	0.06-0.08	0.0-2.9	0.0-0.5	.37	.37			
9: Bockston-----	0-6	10-18	1.25-1.35	4.00-14.11	0.17-0.21	0.0-2.9	1.0-3.0	.37	.43	5	5	56
	6-14	10-22	1.30-1.40	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.37	.43			
	14-22	10-18	1.25-1.35	4.00-14.11	0.14-0.18	3.0-5.9	1.0-3.0	.37	.43			
	22-48	12-20	1.35-1.45	4.00-42.34	0.13-0.18	0.0-2.9	0.0-0.5	.32	.37			
	48-60	5-15	1.45-1.55	14.11-141.14	0.10-0.15	0.0-2.9	0.0-0.5	.28	.37			
10: Breitenbach-----	0-4	12-20	1.15-1.30	4.00-14.11	0.12-0.16	0.0-2.9	1.0-2.0	.17	.32	4	4	86
	4-12	12-18	1.15-1.30	4.00-14.11	0.11-0.17	0.0-2.9	1.0-2.0	.20	.32			
	12-41	10-16	1.20-1.40	14.11-42.34	0.05-0.09	0.0-2.9	0.5-1.0	.10	.24			
	41-60	0-8	1.20-1.40	141.00-705.00	0.02-0.09	0.0-2.9	0.0-0.5	.05	.20			
11: Breitenbach-----	0-3	5-10	1.50-1.60	42.00-141.14	0.07-0.09	0.0-2.9	1.0-2.0	.17	.28	3	3	86
	3-17	12-18	1.15-1.30	4.00-14.11	0.11-0.17	0.0-2.9	1.0-2.0	.20	.32			
	17-30	10-16	1.15-1.30	4.00-14.11	0.09-0.12	0.0-2.9	0.5-1.0	.17	.32			
	30-34	10-16	1.20-1.40	14.11-42.34	0.05-0.09	0.0-2.9	0.5-1.0	.10	.24			
	34-60	0-8	1.20-1.40	141.00-705.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.20			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
11: Stan-----	0-7	2-8	1.50-1.60	42.00-141.14	0.08-0.11	0.0-2.9	1.0-2.0	.24	.28	4	2	134
	7-15	2-10	1.50-1.65	42.00-141.14	0.04-0.10	0.0-2.9	0.5-2.0	.15	.20			
	15-24	5-12	1.50-1.65	42.00-141.14	0.09-0.12	0.0-2.9	0.5-1.0	.24	.32			
	24-40	2-10	1.50-1.60	141.00-705.00	0.04-0.08	0.0-2.9	0.0-0.5	.17	.24			
	40-60	2-8	1.50-1.60	141.00-705.00	0.03-0.06	0.0-2.9	0.0-0.5	.15	.28			
12: Buist-----	0-5	12-18	1.20-1.40	4.00-14.11	0.12-0.16	0.0-2.9	2.0-4.0	.24	.37	5	6	48
	5-20	12-20	1.20-1.40	4.00-14.11	0.09-0.16	0.0-2.9	1.0-3.0	.20	.49			
	20-33	7-18	1.35-1.55	4.00-14.11	0.04-0.08	0.0-2.9	0.0-1.0	.15	.49			
	33-60	3-10	1.45-1.65	14.11-42.34	0.04-0.06	0.0-2.9	0.0-0.5	.10	.43			
13: Bunting-----	0-10	12-22	1.40-1.50	4.00-14.11	0.11-0.15	0.0-2.9	2.0-3.0	.15	.37	3	6	48
	10-18	12-16	1.40-1.50	4.00-14.11	0.06-0.14	0.0-2.9	1.0-2.0	.15	.37			
	18-22	10-13	1.50-1.60	14.11-42.34	0.04-0.14	0.0-2.9	0.5-1.0	.10	.32			
	22-60	5-11	1.60-1.70	141.00-705.00	0.01-0.05	0.0-2.9	0.0-0.5	.05	.17			
14: Coffee-----	0-7	15-26	1.20-1.40	4.00-14.11	0.14-0.17	0.0-2.9	1.0-2.0	.43	.49	3	4L	86
	7-25	12-27	1.20-1.40	4.00-14.11	0.06-0.14	3.0-5.9	0.5-1.0	.43	.49			
	25-48	15-33	1.10-1.40	4.00-14.11	0.06-0.14	3.0-5.9	0.0-0.5	.37	.43			
	48-58	---	---	---	---	---	---	---	---			
15: Coffee-----	0-7	15-26	1.20-1.40	4.00-14.11	0.14-0.17	0.0-2.9	1.0-2.0	.43	.49	3	4L	86
	7-25	12-27	1.20-1.40	4.00-14.11	0.06-0.14	3.0-5.9	0.5-1.0	.43	.49			
	25-48	15-33	1.10-1.40	4.00-14.11	0.06-0.14	3.0-5.9	0.0-0.5	.37	.43			
	48-58	---	---	---	---	---	---	---	---			
Nargon-----	0-5	17-25	1.20-1.40	4.00-14.11	0.17-0.19	0.0-2.9	1.0-2.0	.37	.43	2	5	56
	5-15	20-30	1.20-1.40	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.43			
	15-22	18-25	1.20-1.40	1.41-4.23	0.17-0.21	0.0-2.9	0.0-0.5	.37	.43			
	22-32	---	---	---	---	---	---	---	---			
16: Coffee-----	0-7	15-26	1.20-1.40	4.00-14.11	0.14-0.17	0.0-2.9	1.0-2.0	.43	.49	3	4L	86
	7-25	12-27	1.20-1.40	4.00-14.11	0.06-0.14	3.0-5.9	0.5-1.0	.43	.49			
	25-48	15-33	1.10-1.40	4.00-14.11	0.06-0.14	3.0-5.9	0.0-0.5	.37	.43			
	48-58	---	---	---	---	---	---	---	---			
Nargon-----	0-5	17-25	1.20-1.40	4.00-14.11	0.17-0.19	0.0-2.9	1.0-2.0	.37	.43	2	5	56
	5-15	20-30	1.20-1.40	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.43			
	15-22	18-25	1.20-1.40	1.41-4.23	0.17-0.21	0.0-2.9	0.0-0.5	.37	.43			
	22-32	---	---	---	---	---	---	---	---			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
16: Atom-----	0-3	18-27	1.15-1.35	4.00-14.11	0.19-0.21	3.0-5.9	1.0-2.0	.43	.49	5	4L	86
	3-10	27-33	1.15-1.35	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.43			
	10-29	18-35	1.20-1.50	1.41-4.23	0.12-0.17	3.0-5.9	0.0-0.5	.43	.49			
	29-60	25-35	1.20-1.35	1.41-4.23	0.03-0.14	3.0-5.9	0.0-0.5	.43	.49			
17: Cronks-----	0-7	20-25	1.30-1.40	4.00-14.11	0.11-0.14	0.0-2.9	1.0-2.0	.20	.37	5	6	48
	7-19	35-50	1.30-1.40	0.42-1.41	0.04-0.07	6.0-8.9	0.5-2.0	.05	.17			
	19-29	20-35	1.40-1.50	1.41-14.11	0.08-0.13	3.0-5.9	0.0-0.5	.10	.43			
	29-60	20-35	1.40-1.50	1.41-14.11	0.08-0.13	3.0-5.9	0.0-0.5	.10	.43			
Dacont-----	0-4	15-20	1.20-1.40	4.00-14.11	0.11-0.15	0.0-2.9	2.0-4.0	.20	.37	5	6	48
	4-10	21-27	1.20-1.40	4.00-14.11	0.09-0.12	0.0-2.9	1.0-2.0	.15	.37			
	10-26	10-18	1.20-1.40	4.00-14.11	0.08-0.15	0.0-2.9	0.5-2.0	.15	.43			
	26-40	10-15	1.25-1.45	14.11-42.34	0.05-0.08	0.0-2.9	0.0-0.5	.15	.43			
	40-60	5-12	1.30-1.50	14.11-42.34	0.05-0.08	0.0-2.9	0.0-0.5	.15	.43			
18: Crooked Creek-----	0-6	20-24	1.15-1.30	1.41-4.23	0.19-0.21	0.0-2.9	1.0-3.0	.49	.49	5	6	48
	6-20	22-27	1.15-1.30	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.49	.49			
	20-50	35-45	1.20-1.40	0.42-1.41	0.17-0.20	6.0-8.9	0.5-1.0	.49	.49			
	50-60	20-24	1.20-1.40	1.41-4.23	0.16-0.18	0.0-2.9	0.0-0.5	.43	.43			
19: Cryoborolls-----	0-4	12-27	1.20-1.50	4.00-14.11	0.08-0.11	0.0-2.9	2.0-5.0	.15	.37	5	5	56
	4-54	12-35	1.20-1.60	1.41-42.34	0.05-0.09	0.0-2.9	1.0-3.0	.15	.37			
	54-60	5-27	1.40-1.75	4.00-141.14	0.01-0.11	0.0-2.9	0.5-2.0	.05	.28			
Rubble land-----	0-60	---	---	---	---	---	---	---	---	-	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---	---	---	-	---	---
20: Darlington-----	0-14	15-22	1.10-1.20	4.00-14.11	0.08-0.11	0.0-2.9	1.0-2.0	.17	.37	3	7	38
	14-21	15-22	1.15-1.30	4.00-14.11	0.09-0.13	0.0-2.9	0.5-2.0	.17	.32			
	21-33	15-22	1.15-1.30	4.00-14.11	0.09-0.13	0.0-2.9	0.5-2.0	.17	.32			
	33-60	0-5	1.20-1.40	141.00-705.00	0.02-0.05	0.0-2.9	0.5-1.0	.05	.17			
Lesbut-----	0-3	12-22	1.10-1.20	4.00-14.11	0.11-0.15	0.0-2.9	1.0-2.0	.32	.37	2	6	48
	3-13	12-22	1.10-1.20	4.00-14.11	0.11-0.15	0.0-2.9	1.0-2.0	.32	.37			
	13-19	8-18	1.15-1.30	4.00-14.11	0.09-0.15	0.0-2.9	1.0-2.0	.28	.37			
	19-60	0-5	1.20-1.40	141.00-705.00	0.01-0.04	0.0-2.9	0.0-0.5	.02	.17			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
21: Denied access-----	---	---	---	---	---	---	---	---	---	-	---	---
22: Deuce-----	0-2	15-25	1.20-1.40	4.00-14.11	0.15-0.17	0.0-2.9	1.0-2.0	.32	.37	1	6	48
	2-11	16-30	1.20-1.40	4.00-14.11	0.12-0.17	0.0-2.9	0.5-1.0	.28	.43			
	11-19	18-32	1.25-1.45	4.00-14.11	0.12-0.17	3.0-5.9	0.5-1.0	.32	.49			
	19-29	---	---	---	---	---	---	---	---			
Nargon-----	0-5	18-25	1.20-1.40	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.37	.43	2	6	48
	5-15	20-30	1.20-1.40	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.43			
	15-22	18-25	1.20-1.40	1.41-4.23	0.16-0.18	0.0-2.9	0.0-0.5	.37	.43			
	22-32	---	---	---	---	---	---	---	---			
Lava flows-----	0-60	---	---	---	---	---	---	---	---	-	---	---
23: Deuce-----	0-3	15-25	1.20-1.40	4.00-14.11	0.15-0.17	0.0-2.9	1.0-2.0	.32	.37	1	6	48
	3-12	16-30	1.20-1.40	4.00-14.11	0.12-0.17	0.0-2.9	0.5-1.0	.28	.43			
	12-19	18-32	1.25-1.45	4.00-14.11	0.12-0.17	3.0-5.9	0.5-1.0	.32	.49			
	19-29	---	---	---	---	---	---	---	---			
Nargon-----	0-2	18-25	1.20-1.40	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.37	.43	2	6	48
	2-7	20-30	1.20-1.40	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.43			
	7-21	18-25	1.20-1.40	1.41-4.23	0.16-0.18	0.0-2.9	0.0-0.5	.37	.43			
	21-31	---	---	---	---	---	---	---	---			
Lava flows-----	0-60	---	---	---	---	---	---	---	---	-	---	---
24: Dickeypeak-----	0-2	30-33	1.20-1.35	4.00-14.11	0.07-0.14	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	2-10	25-34	1.25-1.40	4.00-14.11	0.15-0.17	0.0-2.9	0.5-1.0	.32	.32			
	10-50	16-24	1.25-1.40	4.00-42.34	0.15-0.17	0.0-2.9	0.0-0.5	.37	.37			
	50-70	10-18	1.30-1.45	14.11-42.34	0.10-0.13	0.0-2.9	0.0-0.5	.15	.28			
Bigrant-----	0-8	20-27	1.10-1.25	4.00-14.11	0.14-0.19	0.0-2.9	2.0-4.0	.37	.37	5	4L	86
	8-23	20-27	1.10-1.25	4.00-14.11	0.19-0.21	0.0-2.9	2.0-4.0	.37	.37			
	23-35	20-37	1.25-1.40	1.41-4.23	0.18-0.21	3.0-5.9	0.0-0.5	.32	.32			
	35-60	40-50	1.25-1.40	1.41-4.23	0.18-0.21	3.0-5.9	0.0-0.5	.32	.32			
25: Donkehill-----	0-9	13-18	1.40-1.55	4.00-14.11	0.06-0.08	0.0-2.9	2.0-5.0	.10	.37	1	7	38
	9-16	28-34	1.50-1.60	4.00-14.11	0.06-0.08	3.0-5.9	1.0-3.0	.10	.43			
	16-19	28-34	1.50-1.60	4.00-14.11	0.06-0.08	3.0-5.9	1.0-3.0	.10	.43			
	19-29	---	---	---	---	---	---	---	---			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
26: Dredge-----	0-12	18-25	1.20-1.40	4.00-14.11	0.16-0.18	3.0-5.9	2.0-4.0	.32	.32	5	4	86
	12-46	18-25	1.20-1.40	4.00-14.11	0.16-0.18	3.0-5.9	0.5-2.0	.32	.43			
	46-60	18-25	1.20-1.40	4.00-14.11	0.16-0.18	3.0-5.9	0.5-1.0	.32	.43			
27: Elbow-----	0-5	12-20	1.10-1.20	4.00-14.11	0.11-0.15	0.0-2.9	2.0-3.0	.20	.37	2	5	56
	5-17	12-20	1.15-1.35	4.00-14.11	0.09-0.14	0.0-2.9	1.0-2.0	.17	.43			
	17-23	10-16	1.20-1.40	14.11-42.34	0.05-0.09	0.0-2.9	0.5-1.0	.10	.20			
	23-31	---	---	0.01-0.42	0.00-0.00	---	---	---	---			
	31-35	3-8	1.20-1.40	141.00-705.00	0.00-0.00	0.0-2.9	0.0-0.5	.05	.15			
	35-60	0-5	1.20-1.40	141.00-705.00	0.00-0.00	0.0-2.9	0.0-0.5	.05	.10			
28: Fallert-----	0-2	12-23	1.35-1.45	14.11-42.34	0.13-0.15	0.0-2.9	1.0-2.0	.32	.37	3	5	56
	2-8	12-18	1.40-1.50	14.11-42.34	0.05-0.07	0.0-2.9	0.5-1.0	.24	.37			
	8-19	10-15	1.55-1.65	14.11-42.34	0.05-0.07	0.0-2.9	0.5-1.0	.24	.32			
	19-60	5-10	1.60-1.75	14.11-42.34	0.03-0.05	0.0-2.9	0.0-0.5	.10	.20			
29: Fallert, dry-----	0-3	12-23	1.35-1.45	14.11-42.34	0.13-0.15	0.0-2.9	1.0-2.0	.32	.37	3	5	56
	3-12	12-18	1.40-1.50	14.11-42.34	0.05-0.07	0.0-2.9	0.5-1.0	.24	.37			
	12-19	10-15	1.55-1.65	14.11-42.34	0.05-0.07	0.0-2.9	0.5-1.0	.24	.32			
	19-60	5-10	1.60-1.75	14.11-42.34	0.03-0.05	0.0-2.9	0.0-0.5	.10	.20			
30: Fandow-----	0-6	12-20	1.20-1.45	4.00-14.11	0.11-0.14	0.0-2.9	1.0-2.0	.17	.32	1	6	48
	6-19	12-20	1.25-1.45	4.00-14.11	0.09-0.11	0.0-2.9	0.5-1.0	.15	.37			
	19-20	---	---	0.01-0.42	0.00-0.00	---	---	---	---			
	20-60	3-8	1.50-1.60	141.00-705.00	0.00-0.00	0.0-2.9	0.0-0.5	.02	.17			
31: Fulwider, high precipitation-----	0-7	7-15	1.30-1.40	4.00-14.11	0.11-0.15	0.0-2.9	1.0-2.0	.28	.32	1	5	56
	7-12	3-15	1.40-1.60	14.11-42.34	0.06-0.09	0.0-2.9	0.5-1.0	.17	.28			
	12-17	---	---	0.01-0.42	0.00-0.00	---	---	---	---			
	17-60	5-11	1.45-1.65	4.00-14.11	0.00-0.00	0.0-2.9	0.0-0.5	.05	.17			
Fulwider, low precipitation-----	0-3	7-15	1.40-1.50	4.00-14.11	0.10-0.13	0.0-2.9	1.0-2.0	.24	.28	1	5	56
	3-14	3-15	1.40-1.60	14.11-42.34	0.06-0.09	0.0-2.9	0.5-1.0	.17	.28			
	14-17	---	---	0.01-0.42	0.00-0.00	---	---	---	---			
	17-60	5-11	1.45-1.65	4.00-14.11	0.00-0.00	0.0-2.9	0.0-0.5	.05	.17			



## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
35:												
Jonda-----	0-4	15-25	0.95-1.15	14.11-42.34	0.07-0.11	0.0-2.9	1.0-3.0	.20	.37	5	8	0
	4-21	30-35	1.05-1.20	1.41-4.23	0.05-0.07	3.0-5.9	0.0-0.5	.17	.43			
	21-60	10-18	1.05-1.25	42.00-141.14	0.05-0.07	0.0-2.9	0.0-0.5	.05	.32			
36:												
Hal-----	0-6	7-15	0.80-0.90	4.00-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.24	.43	4	6	48
	6-12	7-15	0.80-0.90	4.00-14.11	0.16-0.18	0.0-2.9	0.0-0.5	.32	.49			
	12-24	7-15	0.80-0.90	4.00-14.11	0.16-0.18	0.0-2.9	0.0-0.5	.32	.49			
	24-40	7-15	0.90-1.00	4.00-14.11	0.16-0.18	0.0-2.9	0.0-0.5	.32	.49			
	40-60	2-10	0.90-1.00	42.00-141.14	0.08-0.10	0.0-2.9	0.0-0.5	.05	.24			
Moonville-----	0-7	14-26	0.85-0.95	4.00-14.11	0.19-0.21	0.0-2.9	4.0-15	.43	.43	5	6	48
	7-31	14-26	0.85-0.95	4.00-14.11	0.19-0.21	0.0-2.9	2.0-3.0	.43	.43			
	31-60	14-26	0.85-0.95	4.00-14.11	0.19-0.21	0.0-2.9	0.5-1.0	.43	.43			
37:												
Hondoho-----	0-6	12-25	1.30-1.55	4.00-14.11	0.13-0.14	0.0-2.9	2.0-3.0	.28	.43	5	6	48
	6-10	12-25	1.30-1.55	4.00-14.11	0.13-0.14	0.0-2.9	2.0-3.0	.28	.43			
	10-60	18-27	1.35-1.60	4.00-14.11	0.08-0.11	0.0-2.9	0.0-1.0	.17	.32			
38:												
Howcan-----	0-4	10-25	1.10-1.30	14.11-42.34	0.10-0.13	0.0-2.9	2.0-6.0	.15	.24	3	5	56
	4-10	10-25	1.15-1.30	14.11-42.34	0.06-0.11	0.0-2.9	1.0-3.0	.10	.37			
	10-38	20-25	1.20-1.40	4.00-14.11	0.05-0.10	0.0-2.9	0.5-2.0	.10	.37			
	38-54	15-23	1.30-1.50	14.11-42.34	0.04-0.08	0.0-2.9	0.0-1.0	.05	.37			
	54-64	---	---	---	---	---	---	---	---			
Hutchley-----	0-4	15-25	1.15-1.30	4.00-14.11	0.12-0.16	0.0-2.9	1.0-2.0	.20	.37	1	6	48
	4-11	27-35	1.35-1.50	1.41-4.23	0.09-0.12	3.0-5.9	0.5-2.0	.15	.32			
	11-21	---	---	---	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	---	---	---	---	-	---	---
39:												
Howcan-----	0-4	10-25	1.10-1.30	14.11-42.34	0.10-0.13	0.0-2.9	2.0-6.0	.15	.24	3	5	56
	4-10	10-25	1.15-1.30	14.11-42.34	0.06-0.11	0.0-2.9	1.0-3.0	.10	.37			
	10-38	20-25	1.20-1.40	4.00-14.11	0.05-0.10	0.0-2.9	0.5-2.0	.10	.37			
	38-54	15-23	1.30-1.50	14.11-42.34	0.04-0.08	0.0-2.9	0.0-1.0	.05	.37			
	54-64	---	---	---	---	---	---	---	---			
Zeebar-----	0-3	18-26	1.40-1.55	4.00-14.11	0.12-0.14	0.0-2.9	2.0-3.0	.20	.37	5	7	38
	3-19	18-27	1.45-1.55	4.00-14.11	0.09-0.13	0.0-2.9	1.0-2.0	.17	.43			
	19-41	20-30	1.50-1.60	1.41-4.23	0.07-0.12	0.0-2.9	0.5-1.0	.15	.32			
	41-60	15-25	1.50-1.65	4.00-14.11	0.02-0.03	0.0-2.9	0.0-0.5	.10	.32			



## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
39:												
Hutchley-----	0-4	15-25	1.15-1.30	4.00-14.11	0.12-0.16	0.0-2.9	1.0-2.0	.20	.37	1	6	48
	4-11	27-35	1.35-1.50	1.41-4.23	0.09-0.12	3.0-5.9	0.5-2.0	.15	.32			
	11-21	---	---	---	---	---	---	---	---			
40:												
Huddle-----	0-2	7-15	0.85-0.95	4.00-14.11	0.11-0.15	0.0-2.9	1.0-2.0	.28	.49	3	6	48
	2-7	7-15	0.85-0.95	4.00-14.11	0.14-0.16	0.0-2.9	1.0-2.0	.37	.49			
	7-19	12-18	0.85-0.95	4.00-14.11	0.14-0.16	0.0-2.9	0.0-0.5	.37	.49			
	19-39	12-18	0.85-0.95	4.00-14.11	0.14-0.16	0.0-2.9	0.0-0.5	.37	.49			
	39-50	18-27	0.85-0.95	4.00-14.11	0.14-0.16	3.0-5.9	0.0-0.5	.37	.49			
	50-60	---	---	---	---	---	---	---	---			
Moonville-----	0-7	14-26	0.85-0.95	4.00-14.11	0.19-0.21	0.0-2.9	4.0-15	.43	.43	5	6	48
	7-31	14-26	0.85-0.95	4.00-14.11	0.19-0.21	0.0-2.9	2.0-3.0	.43	.43			
	31-60	14-26	0.85-0.95	4.00-14.11	0.19-0.21	0.0-2.9	0.5-1.0	.43	.43			
41:												
Ike-----	0-2	10-25	1.20-1.36	4.00-14.11	0.12-0.14	0.0-2.9	0.5-2.0	.15	.32	1	5	56
	2-7	10-20	1.30-1.50	4.00-14.11	0.07-0.10	0.0-2.9	0.0-1.0	.10	.37			
	7-18	10-20	1.40-1.60	4.00-14.11	0.06-0.08	0.0-2.9	0.0-1.0	.10	.37			
	18-28	---	---	---	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	---	---	---	---	-	---	---
Jimbee-----	0-7	12-22	1.30-1.45	4.00-14.11	0.10-0.14	0.0-2.9	1.0-2.0	.20	.37	1	5	56
	7-17	12-22	1.30-1.45	4.00-14.11	0.07-0.09	0.0-2.9	0.5-2.0	.15	.32			
	17-27	---	---	---	---	---	---	---	---			
42:												
Ike-----	0-2	10-25	1.20-1.36	4.00-14.11	0.12-0.14	0.0-2.9	0.5-2.0	.15	.32	1	5	56
	2-7	10-20	1.30-1.50	4.00-14.11	0.07-0.10	0.0-2.9	0.0-1.0	.10	.37			
	7-18	10-20	1.40-1.60	4.00-14.11	0.06-0.08	0.0-2.9	0.0-1.0	.10	.37			
	18-28	---	---	---	---	---	---	---	---			
Simeroi-----	0-4	10-20	1.50-1.55	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.28	.43	2	7	38
	4-26	10-20	1.55-1.65	4.00-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.15	.43			
	26-60	10-15	1.60-1.65	4.00-42.34	0.04-0.07	0.0-2.9	0.5-1.0	.10	.20			
Rock outcrop-----	0-60	---	---	---	---	---	---	---	---	-	---	---
43:												
Inel-----	0-2	10-18	1.35-1.45	4.00-14.11	0.14-0.16	0.0-2.9	0.5-1.0	.24	.28	1	5	56
	2-16	10-18	1.20-1.40	4.00-14.11	0.08-0.12	0.0-2.9	0.0-0.5	.28	.37			
	16-19	10-18	1.25-1.50	4.00-42.34	0.06-0.10	0.0-2.9	0.0-0.5	.15	.28			
	19-29	---	---	---	---	---	---	---	---			



## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
47:												
Justesen-----	0-10	12-18	1.20-1.30	4.00-14.11	0.16-0.18	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	10-25	23-34	1.30-1.45	1.41-4.23	0.16-0.21	3.0-5.9	0.5-2.0	.37	.37			
	25-60	15-20	1.40-1.50	4.00-14.11	0.13-0.18	0.0-2.9	0.0-0.5	.28	.32			
Drage-----	0-6	18-27	1.20-1.40	4.00-14.11	0.15-0.17	0.0-2.9	1.0-2.0	.20	.24	5	7	56
	6-15	27-35	1.20-1.40	4.00-14.11	0.11-0.14	3.0-5.9	1.0-2.0	.24	.37			
	15-30	30-35	1.30-1.50	1.41-4.23	0.08-0.12	3.0-5.9	0.5-1.0	.10	.32			
	30-43	15-35	1.40-1.60	4.00-14.11	0.04-0.08	0.0-2.9	0.0-0.5	.10	.37			
	43-60	15-35	1.20-1.40	4.00-14.11	0.04-0.08	0.0-2.9	0.0-0.5	.10	.37			
48:												
Ketchum-----	0-1	0-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---	---	5	7	38
	1-5	10-20	1.25-1.40	4.00-14.11	0.12-0.15	0.0-2.9	1.0-2.0	.15	.37			
	5-18	10-20	1.25-1.40	4.00-14.11	0.12-0.15	0.0-2.9	1.0-2.0	.15	.37			
	18-50	10-20	1.25-1.50	14.11-42.34	0.06-0.11	0.0-2.9	0.5-1.0	.24	.37			
	50-64	5-15	1.30-1.60	14.11-42.34	0.04-0.06	0.0-2.9	0.0-0.5	.05	.28			
Povey-----	0-6	10-20	1.20-1.40	4.00-14.11	0.10-0.13	0.0-2.9	2.0-3.0	.24	.37	3	6	48
	6-12	10-20	1.20-1.40	4.00-14.11	0.06-0.08	0.0-2.9	1.0-2.0	.15	.37			
	12-55	8-15	1.25-1.45	4.00-14.11	0.03-0.05	0.0-2.9	0.5-2.0	.15	.37			
	55-65	---	---	---	---	---	---	---	---			
49:												
Kimama-----	0-8	12-20	1.20-1.30	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	8-34	18-25	1.25-1.45	4.00-14.11	0.19-0.21	3.0-5.9	0.0-1.0	.43	.43			
	34-60	18-25	1.25-1.45	4.00-14.11	0.19-0.21	3.0-5.9	0.0-1.0	.43	.43			
50:												
Klug-----	0-13	12-20	1.20-1.35	4.00-14.11	0.11-0.14	0.0-2.9	2.0-3.0	.15	.32	5	5	56
	13-24	12-20	1.35-1.50	4.00-42.34	0.06-0.11	0.0-2.9	1.0-2.0	.10	.37			
	24-37	12-20	1.40-1.55	4.00-42.34	0.03-0.08	0.0-2.9	0.5-1.0	.05	.43			
	37-60	12-20	1.40-1.55	4.00-42.34	0.03-0.08	0.0-2.9	0.5-1.0	.05	.43			
51:												
Klug-----	0-13	12-20	1.20-1.35	4.00-14.11	0.11-0.14	0.0-2.9	2.0-3.0	.15	.32	5	5	56
	13-24	12-20	1.35-1.50	4.00-42.34	0.06-0.11	0.0-2.9	1.0-2.0	.10	.37			
	24-37	12-20	1.40-1.55	4.00-42.34	0.03-0.08	0.0-2.9	0.5-1.0	.05	.43			
	37-60	12-20	1.40-1.55	4.00-42.34	0.03-0.08	0.0-2.9	0.5-1.0	.05	.43			
Parvis-----	0-8	18-26	1.20-1.40	4.00-14.11	0.11-0.15	0.0-2.9	2.0-4.0	.17	.32	5	7	38
	8-28	18-26	1.20-1.40	4.00-14.11	0.07-0.12	0.0-2.9	1.0-3.0	.10	.37			
	28-43	28-34	1.20-1.40	1.41-4.23	0.08-0.10	3.0-5.9	0.0-0.5	.10	.37			
	43-60	28-34	1.20-1.40	1.41-4.23	0.04-0.08	3.0-5.9	0.0-0.5	.05	.37			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
52: Lag-----	0-1	0-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---	---	5	7	38
	1-14	14-22	1.40-1.55	14.11-42.34	0.12-0.15	0.0-2.9	2.0-4.0	.15	.28			
	14-25	10-20	1.60-1.65	14.11-42.34	0.03-0.05	0.0-2.9	0.5-2.0	.05	.24			
	25-60	10-20	1.60-1.65	14.11-42.34	0.02-0.05	0.0-2.9	0.0-0.5	.05	.32			
53: Lavacreek-----	0-10	16-26	0.85-0.95	4.00-14.11	0.19-0.21	0.0-2.9	1.0-3.0	.28	.32	3	8	0
	10-19	16-26	1.65-1.75	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.24	.43			
	19-36	16-26	1.65-1.75	14.11-42.34	0.05-0.08	0.0-2.9	0.5-1.0	.24	.43			
	36-59	12-19	1.65-1.75	14.11-42.34	0.05-0.08	0.0-2.9	0.5-1.0	.24	.43			
	59-69	---	---	---	---	---	---	---	---			
Dollarhide-----	0-8	8-18	0.85-0.95	14.11-42.34	0.08-0.13	0.0-2.9	1.0-3.0	.20	.37	1	8	0
	8-13	8-18	1.35-1.50	14.11-42.34	0.05-0.09	0.0-2.9	0.5-1.0	.10	.32			
	13-17	---	---	---	---	---	---	---	---			
	17-27	---	---	---	---	---	---	---	---			
54: Lavacreek-----	0-10	16-26	0.85-0.95	4.00-14.11	0.19-0.21	0.0-2.9	1.0-3.0	.28	.32	3	8	0
	10-19	16-26	1.65-1.75	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.24	.43			
	19-36	16-26	1.65-1.75	14.11-42.34	0.05-0.08	0.0-2.9	0.5-1.0	.24	.43			
	36-59	12-19	1.65-1.75	14.11-42.34	0.05-0.08	0.0-2.9	0.5-1.0	.24	.43			
	59-69	---	---	---	---	---	---	---	---			
Dollarhide-----	0-8	8-18	0.85-0.95	14.11-42.34	0.08-0.13	0.0-2.9	1.0-3.0	.20	.37	1	8	0
	8-13	8-18	1.35-1.50	14.11-42.34	0.05-0.09	0.0-2.9	0.5-1.0	.10	.32			
	13-17	---	---	---	---	---	---	---	---			
	17-27	---	---	---	---	---	---	---	---			
Grassycone-----	0-1	0-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---	---	4	3	86
	1-3	8-19	0.65-0.85	42.00-141.14	0.20-0.25	0.0-2.9	2.0-6.0	.64	.64			
	3-9	8-19	0.65-0.85	42.00-141.14	0.20-0.25	0.0-2.9	1.0-4.0	.64	.64			
	9-57	8-19	0.65-0.85	42.00-141.14	0.20-0.25	0.0-2.9	0.2-2.0	.64	.64			
	57-65	24-30	1.05-1.20	4.00-14.11	0.10-0.12	0.0-2.9	0.0-0.5	.32	.64			
55: Lavacreek-----	0-10	16-26	0.85-0.95	4.00-14.11	0.19-0.21	0.0-2.9	1.0-3.0	.28	.32	3	8	0
	10-19	16-26	1.65-1.75	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.24	.43			
	19-36	16-26	1.65-1.75	14.11-42.34	0.05-0.08	0.0-2.9	0.5-1.0	.24	.43			
	36-59	12-19	1.65-1.75	14.11-42.34	0.05-0.08	0.0-2.9	0.5-1.0	.24	.43			
	59-69	---	---	---	---	---	---	---	---			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
55: Vitale-----	0-3	12-25	1.30-1.45	14.11-42.34	0.09-0.12	0.0-2.9	1.0-3.0	.20	.28	2	7	38
	3-10	18-25	1.40-1.55	4.00-14.11	0.05-0.07	0.0-2.9	0.0-1.0	.17	.37			
	10-24	26-35	1.40-1.50	1.41-4.23	0.05-0.07	3.0-5.9	1.0-3.0	.10	.37			
	24-33	18-35	1.40-1.55	4.00-14.11	0.05-0.07	0.0-2.9	0.0-1.0	.17	.37			
	33-43	---	---	---	---	---	---	---	---			
56: Lava flows-----	0-60	---	---	---	---	---	---	---	---	-	---	---
57: Lava flows-----	0-60	---	---	---	---	---	---	---	---	-	---	---
Cinderhurst-----	0-3	15-20	1.25-1.35	4.00-14.11	0.14-0.18	0.0-2.9	2.0-4.0	.15	.37	1	8	0
	3-8	18-25	1.25-1.35	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.24	.37			
	8-18	---	---	---	---	---	---	---	---			
58: Lava flows-----	0-60	---	---	---	---	---	---	---	---	-	---	---
Pingree-----	0-2	15-22	1.20-1.40	4.00-14.11	0.15-0.21	0.0-2.9	0.5-1.0	.32	.43	1	4L	86
	2-7	15-22	1.20-1.40	4.00-14.11	0.14-0.18	0.0-2.9	0.5-1.0	.32	.43			
	7-9	15-22	1.25-1.40	4.00-14.11	0.12-0.17	0.0-2.9	0.5-1.0	.28	.43			
	9-19	---	---	---	---	---	---	---	---			
59: Leatherman-----	0-3	12-20	1.40-1.55	4.00-14.11	0.11-0.13	0.0-2.9	1.0-2.0	.20	.28	1	5	56
	3-8	12-20	1.45-1.60	4.00-14.11	0.09-0.11	0.0-2.9	0.5-2.0	.15	.28			
	8-12	12-20	1.45-1.60	4.00-14.11	0.09-0.11	0.0-2.9	0.5-2.0	.15	.28			
	12-17	---	---	0.01-0.42	0.00-0.00	---	---	---	---			
	17-60	3-10	1.60-1.75	42.00-141.14	0.00-0.00	0.0-2.9	0.0-0.5	.05	.20			
Adek, dry-----	0-7	8-18	1.30-1.45	4.00-14.11	0.12-0.14	0.0-2.9	1.0-2.0	.24	.43	2	5	56
	7-41	12-25	1.25-1.40	4.00-14.11	0.06-0.08	0.0-2.9	0.5-3.0	.05	.37			
	41-60	12-18	1.30-1.45	4.00-14.11	0.06-0.08	0.0-2.9	0.0-0.5	.05	.37			
Adek-----	0-2	8-18	1.30-1.45	4.00-14.11	0.12-0.14	0.0-2.9	1.0-2.0	.24	.43	2	5	56
	2-17	12-25	1.20-1.35	4.00-14.11	0.08-0.09	0.0-2.9	1.0-6.0	.10	.43			
	17-60	12-25	1.25-1.40	4.00-14.11	0.06-0.08	0.0-2.9	0.5-3.0	.05	.37			
60: Leatherman-----	0-3	12-20	1.40-1.55	4.00-14.11	0.11-0.13	0.0-2.9	1.0-2.0	.20	.28	1	8	0
	3-8	12-20	1.45-1.60	4.00-14.11	0.09-0.11	0.0-2.9	0.5-2.0	.15	.28			
	8-12	12-20	1.45-1.60	4.00-14.11	0.09-0.11	0.0-2.9	0.5-2.0	.15	.28			
	12-17	---	---	0.01-0.42	0.00-0.00	---	---	---	---			
	17-60	3-10	1.60-1.75	42.00-141.14	0.00-0.00	0.0-2.9	0.0-0.5	.05	.20			

Physical Properties of the Soils--Continued

[illegible]

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
64:												
McCarey-----	0-12	10-20	1.25-1.55	4.00-14.11	0.19-0.21	0.0-2.9	1.0-3.0	.43	.43	2	5	56
	12-18	20-34	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.32	.32			
	18-33	15-25	1.40-1.60	4.00-14.11	0.16-0.21	0.0-2.9	0.0-1.0	.43	.43			
	33-43	---	---	---	---	---	---	---	---			
Beartrap-----	0-16	8-12	1.20-1.40	4.00-14.11	0.15-0.18	0.0-2.9	1.0-3.0	.32	.37	3	5	56
	16-52	12-18	1.20-1.45	4.00-14.11	0.13-0.20	0.0-2.9	0.5-1.0	.28	.37			
	52-62	---	---	---	---	---	---	---	---			
65:												
McCarey-----	0-12	10-20	1.25-1.55	4.00-14.11	0.19-0.21	0.0-2.9	1.0-3.0	.43	.43	2	5	56
	12-18	20-34	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.32	.32			
	18-33	15-25	1.40-1.60	4.00-14.11	0.16-0.21	0.0-2.9	0.0-1.0	.43	.43			
	33-43	---	---	---	---	---	---	---	---			
Beartrap-----	0-16	8-12	1.20-1.40	4.00-14.11	0.15-0.18	0.0-2.9	1.0-3.0	.32	.37	3	5	56
	16-52	12-18	1.20-1.45	4.00-14.11	0.13-0.20	0.0-2.9	0.5-1.0	.28	.37			
	52-62	---	---	---	---	---	---	---	---			
66:												
McCarey-----	0-12	10-20	1.25-1.55	4.00-14.11	0.19-0.21	0.0-2.9	1.0-3.0	.43	.43	2	5	56
	12-18	20-34	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.32	.32			
	18-33	15-25	1.40-1.60	4.00-14.11	0.16-0.21	0.0-2.9	0.0-1.0	.43	.43			
	33-43	---	---	---	---	---	---	---	---			
Beartrap-----	0-16	8-12	1.20-1.40	4.00-14.11	0.15-0.18	0.0-2.9	1.0-3.0	.32	.37	3	5	56
	16-52	12-18	1.20-1.45	4.00-14.11	0.13-0.20	0.0-2.9	0.5-1.0	.28	.37			
	52-62	---	---	---	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	---	---	---	---	-	---	---
67:												
McCarey-----	0-11	10-20	1.25-1.55	4.00-14.11	0.19-0.21	0.0-2.9	1.0-3.0	.43	.43	2	5	56
	11-23	20-34	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.32	.32			
	23-28	15-25	1.40-1.60	4.00-14.11	0.16-0.21	0.0-2.9	0.0-1.0	.43	.43			
	28-38	---	---	---	---	---	---	---	---			
Molyneux-----	0-13	10-20	1.30-1.50	4.00-14.11	0.16-0.18	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	13-25	28-35	1.35-1.55	1.41-4.23	0.16-0.21	3.0-5.9	1.0-3.0	.28	.32			
	25-62	18-25	1.25-1.45	4.00-14.11	0.19-0.21	3.0-5.9	0.0-1.0	.43	.43			
Lava flows-----	0-60	---	---	---	---	---	---	---	---	-	---	---

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
68:												
McCarey-----	0-12	10-20	1.25-1.55	4.00-14.11	0.19-0.21	0.0-2.9	1.0-3.0	.43	.43	2	5	56
	12-18	20-34	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.32	.32			
	18-33	15-25	1.40-1.60	4.00-14.11	0.16-0.21	0.0-2.9	0.0-1.0	.43	.43			
	33-43	---	---	---	---	---	---	---	---			
Splittop-----	0-4	18-25	1.20-1.40	4.00-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37	2	6	48
	4-30	20-27	1.20-1.40	4.00-14.11	0.16-0.21	0.0-2.9	0.5-1.0	.37	.37			
	30-40	---	---	---	---	---	---	---	---			
Lava flows-----	0-60	---	---	---	---	---	---	---	---	-	---	---
69:												
McCarey-----	0-12	10-20	1.25-1.55	4.00-14.11	0.19-0.21	0.0-2.9	1.0-3.0	.43	.43	2	5	56
	12-18	20-34	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.32	.32			
	18-33	15-25	1.40-1.60	4.00-14.11	0.16-0.21	0.0-2.9	0.0-1.0	.43	.43			
	33-43	---	---	---	---	---	---	---	---			
Vickton-----	0-8	18-26	1.45-1.55	4.00-14.11	0.19-0.21	0.0-2.9	1.0-3.0	.37	.37	3	5	56
	8-14	28-35	1.50-1.60	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.37			
	14-58	18-30	1.50-1.60	1.41-4.23	0.17-0.20	3.0-5.9	0.5-1.0	.28	.32			
	58-68	---	---	---	---	---	---	---	---			
Lava flows-----	0-60	---	---	---	---	---	---	---	---	-	---	---
70:												
McClenden-----	0-5	7-15	1.50-1.60	14.11-42.34	0.12-0.15	0.0-2.9	1.0-2.0	.32	.32	3	3	86
	5-11	14-18	1.45-1.55	4.00-14.11	0.15-0.17	0.0-2.9	0.0-0.5	.37	.37			
	11-19	10-18	1.30-1.50	4.00-14.11	0.14-0.19	0.0-2.9	0.5-1.0	.37	.37			
	19-51	7-17	1.50-1.60	14.11-42.34	0.10-0.15	0.0-2.9	0.0-0.5	.32	.32			
	51-53	---	---	0.01-0.42	0.00-0.00	---	---	---	---			
	53-63	---	---	---	---	---	---	---	---			
Thornock-----	0-5	10-18	1.30-1.45	4.00-14.11	0.11-0.15	0.0-2.9	1.0-2.0	.28	.32	1	8	0
	5-10	20-24	1.15-1.30	1.41-4.23	0.19-0.21	0.0-2.9	1.0-3.0	.49	.49			
	10-16	8-18	1.45-1.55	4.00-14.11	0.11-0.17	0.0-2.9	0.0-0.5	.28	.37			
	16-26	---	---	---	---	---	---	---	---			
71:												
Medicine-----	0-4	15-25	1.40-1.50	4.00-14.11	0.16-0.18	0.0-2.9	1.0-3.0	.28	.28	3	5	56
	4-12	15-25	1.40-1.50	4.00-14.11	0.16-0.18	0.0-2.9	1.0-3.0	.28	.28			
	12-25	18-26	1.40-1.50	4.00-14.11	0.15-0.20	0.0-2.9	0.0-0.5	.28	.32			
	25-60	3-10	1.55-1.65	141.00-705.00	0.01-0.03	0.0-2.9	0.0-0.5	.05	.10			



## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
71: Whiteknob-----	0-5	10-18	1.50-1.55	4.00-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.32	.37	2	4L	86
	5-10	10-18	1.50-1.60	4.00-14.11	0.14-0.18	0.0-2.9	0.5-1.0	.28	.43			
	10-18	5-10	1.40-1.50	14.11-42.34	0.05-0.10	0.0-2.9	0.5-1.0	.10	.37			
	18-60	3-8	1.40-1.50	141.00-705.00	0.03-0.05	0.0-2.9	0.5-1.0	.05	.20			
72: Menan-----	0-7	22-25	1.25-1.30	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.32	.43	5	5	48
	7-33	29-34	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	0.0-0.5	.43	.49			
	33-38	25-30	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	0.0-0.5	.37	.49			
	38-60	15-30	1.40-1.50	4.00-14.11	0.16-0.21	0.0-2.9	0.0-0.5	.37	.49			
73: Mogg-----	0-2	15-25	1.50-1.60	4.00-14.11	0.06-0.09	0.0-2.9	1.0-3.0	.10	.32	1	8	0
	2-6	15-25	1.50-1.60	4.00-14.11	0.06-0.09	0.0-2.9	1.0-3.0	.10	.32			
	6-13	15-25	1.55-1.65	4.00-14.11	0.04-0.07	0.0-2.9	0.5-1.0	.05	.24			
	13-23	---	---	---	---	---	---	---	---			
Shagel-----	0-3	11-15	1.25-1.35	4.00-14.11	0.10-0.12	0.0-2.9	2.0-3.0	.20	.37	1	7	38
	3-7	11-15	1.25-1.35	4.00-14.11	0.10-0.12	0.0-2.9	2.0-3.0	.20	.37			
	7-10	6-15	1.30-1.40	4.00-14.11	0.13-0.19	0.0-2.9	1.0-2.0	.20	.49			
	10-16	6-15	1.35-1.45	14.11-42.34	0.09-0.12	0.0-2.9	0.0-0.5	.10	.43			
	16-26	---	---	---	---	---	---	---	---			
74: Mooretown-----	0-3	12-20	1.10-1.20	4.00-14.11	0.15-0.18	0.0-2.9	2.0-4.0	.37	.43	4	4L	86
	3-24	10-18	1.15-1.30	4.00-14.11	0.13-0.16	0.0-2.9	1.0-3.0	.32	.43			
	24-48	10-18	1.15-1.30	4.00-14.11	0.13-0.16	0.0-2.9	1.0-3.0	.32	.43			
	48-60	5-12	1.35-1.65	141.00-705.00	0.03-0.15	0.0-2.9	0.1-0.5	.05	.20			
Borah-----	0-3	8-15	1.15-1.25	4.00-14.11	0.19-0.21	0.0-2.9	1.0-3.0	.32	.32	2	5	56
	3-9	8-15	1.20-1.40	4.00-42.34	0.09-0.12	0.0-2.9	1.0-2.0	.17	.37			
	9-60	1-6	1.30-1.40	141.00-705.00	0.01-0.03	0.0-2.9	0.5-1.0	.10	.15			
75: Mooretown, drained----	0-3	12-20	1.10-1.20	4.00-14.11	0.15-0.18	0.0-2.9	2.0-4.0	.37	.43	4	4L	86
	3-24	10-18	1.15-1.30	4.00-14.11	0.13-0.16	0.0-2.9	1.0-3.0	.32	.43			
	24-48	10-18	1.15-1.30	4.00-14.11	0.13-0.16	0.0-2.9	1.0-3.0	.32	.43			
	48-60	5-12	1.35-1.65	141.00-705.00	0.04-0.07	0.0-2.9	0.1-0.5	.05	.20			
Borco-----	0-2	8-15	1.30-1.40	4.00-14.11	0.10-0.15	0.0-2.9	1.0-3.0	.17	.32	2	6	48
	2-10	8-15	1.20-1.40	4.00-14.11	0.05-0.10	0.0-2.9	1.0-2.0	.15	.37			
	10-26	1-6	1.20-1.40	141.00-705.00	0.01-0.03	0.0-2.9	0.0-1.0	.05	.20			
	26-60	1-6	1.20-1.40	141.00-705.00	0.01-0.03	0.0-2.9	0.0-1.0	.05	.20			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
76:												
Nargon-----	0-5	17-25	1.20-1.40	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.37	.43	2	5	56
	5-15	20-30	1.20-1.40	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.43			
	15-22	18-25	1.20-1.40	1.41-4.23	0.16-0.18	0.0-2.9	0.0-0.5	.37	.43			
	22-32	---	---	---	---	---	---	---	---			
Atom-----	0-7	18-27	1.15-1.35	4.00-14.11	0.19-0.21	3.0-5.9	1.0-2.0	.43	.49	5	4L	86
	7-15	18-35	1.15-1.35	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.43			
	15-60	18-35	1.20-1.50	1.41-4.23	0.12-0.17	3.0-5.9	0.0-0.5	.43	.49			
Techicknot-----	0-4	20-25	1.25-1.30	4.00-14.11	0.15-0.18	0.0-2.9	1.0-2.0	.37	.43	5	6	48
	4-29	25-34	1.30-1.40	1.41-14.11	0.16-0.21	3.0-5.9	1.0-2.0	.37	.43			
	29-48	22-34	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.43			
	48-60	20-30	1.40-1.50	1.41-14.11	0.16-0.21	0.0-2.9	0.0-0.5	.37	.43			
77:												
Nargon-----	0-2	18-25	1.20-1.40	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.37	.43	2	6	48
	2-7	20-30	1.20-1.40	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.43			
	7-21	18-25	1.20-1.40	1.41-4.23	0.16-0.18	0.0-2.9	0.0-0.5	.37	.43			
	21-31	---	---	---	---	---	---	---	---			
Deuce-----	0-2	15-25	1.20-1.40	4.00-14.11	0.15-0.17	0.0-2.9	1.0-2.0	.32	.37	1	6	48
	2-11	16-30	1.20-1.40	4.00-14.11	0.12-0.17	0.0-2.9	0.5-1.0	.28	.43			
	11-19	18-32	1.25-1.45	4.00-14.11	0.12-0.17	3.0-5.9	0.5-1.0	.32	.49			
	19-29	---	---	---	---	---	---	---	---			
Lava flows-----	0-60	---	---	---	---	---	---	---	---	-	---	---
78:												
Nitchly-----	0-10	18-25	1.25-1.35	4.00-14.11	0.11-0.13	0.0-2.9	1.0-2.0	.20	.37	3	8	0
	10-24	18-35	1.30-1.40	4.00-14.11	0.08-0.11	0.0-2.9	0.5-1.0	.17	.37			
	24-60	18-35	1.40-1.50	1.41-4.23	0.07-0.13	3.0-5.9	0.0-0.5	.15	.32			
79:												
Nurkey-----	0-7	16-25	1.35-1.45	4.00-14.11	0.15-0.17	0.0-2.9	1.0-2.0	.17	.37	5	6	48
	7-15	24-30	1.35-1.45	1.41-4.23	0.12-0.14	3.0-5.9	1.0-2.0	.15	.37			
	15-60	12-27	1.35-1.45	1.41-4.23	0.11-0.14	0.0-2.9	0.5-1.0	.15	.37			
Dacont-----	0-2	15-20	1.20-1.40	4.00-14.11	0.11-0.15	0.0-2.9	2.0-4.0	.20	.37	5	6	48
	2-8	21-27	1.20-1.40	4.00-14.11	0.09-0.12	0.0-2.9	1.0-2.0	.15	.37			
	8-12	10-18	1.20-1.40	4.00-14.11	0.08-0.15	0.0-2.9	0.5-2.0	.15	.43			
	12-24	10-15	1.25-1.45	14.11-42.34	0.05-0.15	0.0-2.9	0.0-0.5	.15	.43			
	24-35	5-12	1.30-1.50	14.11-42.34	0.05-0.15	0.0-2.9	0.0-0.5	.15	.43			
	35-60	2-8	1.30-1.50	14.11-42.34	0.05-0.15	0.0-2.9	0.0-0.5	.15	.43			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
80:												
Nurkey-----	0-7	16-25	1.35-1.45	4.00-14.11	0.15-0.17	0.0-2.9	1.0-2.0	.17	.37	5	6	48
	7-15	24-30	1.35-1.45	1.41-4.23	0.12-0.14	3.0-5.9	1.0-2.0	.15	.37			
	15-60	12-27	1.35-1.45	1.41-4.23	0.11-0.14	0.0-2.9	0.5-1.0	.15	.37			
Dacont-----	0-2	15-20	1.20-1.40	4.00-14.11	0.11-0.15	0.0-2.9	2.0-4.0	.20	.37	5	6	48
	2-8	21-27	1.20-1.40	4.00-14.11	0.09-0.12	0.0-2.9	1.0-2.0	.15	.37			
	8-12	10-18	1.20-1.40	4.00-14.11	0.08-0.15	0.0-2.9	0.5-2.0	.15	.43			
	12-24	10-15	1.25-1.45	14.11-42.34	0.05-0.15	0.0-2.9	0.0-0.5	.15	.43			
	24-35	5-12	1.30-1.50	14.11-42.34	0.05-0.15	0.0-2.9	0.0-0.5	.15	.43			
	35-60	2-8	1.30-1.50	14.11-42.34	0.05-0.15	0.0-2.9	0.0-0.5	.15	.43			
81:												
Nurkey-----	0-3	16-25	1.35-1.45	4.00-14.11	0.15-0.17	0.0-2.9	1.0-2.0	.17	.37	5	6	48
	3-10	19-28	1.35-1.45	1.41-4.23	0.13-0.16	0.0-2.9	1.0-2.0	.15	.37			
	10-20	24-30	1.35-1.45	1.41-4.23	0.12-0.14	3.0-5.9	1.0-2.0	.15	.37			
	20-40	12-27	1.35-1.45	1.41-4.23	0.11-0.14	0.0-2.9	0.5-1.0	.15	.37			
	40-60	5-20	1.35-1.45	4.00-14.11	0.05-0.09	0.0-2.9	0.5-1.0	.10	.32			
Nurkey, low precipitation-----	0-10	16-25	1.35-1.45	4.00-14.11	0.13-0.15	0.0-2.9	1.0-2.0	.20	.37	5	6	48
	10-17	24-30	1.35-1.45	1.41-4.23	0.12-0.14	3.0-5.9	1.0-2.0	.15	.37			
	17-35	12-27	1.35-1.45	1.41-4.23	0.11-0.14	0.0-2.9	0.5-1.0	.15	.37			
	35-60	5-20	1.35-1.45	4.00-14.11	0.05-0.09	0.0-2.9	0.5-1.0	.10	.32			
82:												
Calcid-----	0-4	12-20	1.60-1.65	4.00-14.11	0.08-0.11	0.0-2.9	1.0-2.0	.15	.37	5	8	0
	4-12	12-20	1.60-1.65	4.00-42.34	0.06-0.11	0.0-2.9	0.5-1.0	.15	.37			
	12-25	10-18	1.55-1.60	4.00-42.34	0.03-0.08	0.0-2.9	0.0-0.5	.05	.37			
	25-60	10-18	1.55-1.60	4.00-42.34	0.03-0.08	0.0-2.9	0.0-0.5	.05	.37			
Rubble land-----	0-60	---	---	---	---	---	---	---	---	-	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---	---	---	-	---	---
83:												
Packmo-----	0-3	12-22	1.30-1.45	4.00-14.11	0.12-0.14	0.0-2.9	1.0-2.0	.24	.37	4	5	56
	3-12	12-22	1.30-1.45	4.00-14.11	0.08-0.12	0.0-2.9	0.5-1.0	.24	.37			
	12-42	10-18	1.30-1.45	4.00-42.34	0.04-0.08	0.0-2.9	0.0-0.5	.10	.32			
	42-60	5-10	1.20-1.30	42.00-141.14	0.03-0.04	0.0-2.9	0.0-0.5	.05	.20			
Snowslide-----	0-5	12-18	1.35-1.45	4.00-14.11	0.11-0.14	0.0-2.9	0.5-1.0	.24	.37	5	8	0
	5-24	11-15	1.60-1.65	4.00-14.11	0.06-0.08	0.0-2.9	0.5-1.0	.17	.37			
	24-60	5-18	1.55-1.60	4.00-14.11	0.01-0.05	0.0-2.9	0.5-1.0	.05	.28			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
84:												
Paint-----	0-10	12-19	1.50-1.55	4.00-14.11	0.11-0.14	0.0-2.9	1.0-2.0	.15	.28	2	6	48
	10-18	12-19	1.50-1.55	4.00-14.11	0.06-0.08	0.0-2.9	1.0-2.0	.20	.37			
	18-19	---	---	0.01-0.42	0.00-0.00	---	---	---	---			
	19-28	2-19	1.50-1.55	4.00-14.11	0.00-0.00	0.0-2.9	1.0-2.0	.20	.37			
	28-60	5-10	1.50-1.60	42.00-141.14	0.00-0.00	0.0-2.9	0.0-0.5	.02	.15			
Fallert-----	0-3	12-23	1.35-1.45	14.11-42.34	0.13-0.15	0.0-2.9	1.0-2.0	.32	.37	3	5	56
	3-11	12-18	1.40-1.50	14.11-42.34	0.05-0.07	0.0-2.9	0.5-1.0	.24	.37			
	11-27	10-15	1.55-1.65	14.11-42.34	0.05-0.07	0.0-2.9	0.5-1.0	.24	.32			
	27-60	5-10	1.60-1.75	14.11-42.34	0.03-0.05	0.0-2.9	0.0-0.5	.10	.20			
85:												
Paint-----	0-8	12-19	1.50-1.55	4.00-14.11	0.11-0.14	0.0-2.9	1.0-2.0	.15	.28	2	6	48
	8-15	12-19	1.50-1.55	4.00-14.11	0.06-0.08	0.0-2.9	1.0-2.0	.20	.37			
	15-20	---	---	0.01-0.42	0.00-0.00	---	---	---	---			
	20-28	2-19	1.50-1.55	4.00-14.11	0.00-0.00	0.0-2.9	1.0-2.0	.20	.37			
	28-60	5-10	1.50-1.60	42.00-141.14	0.00-0.00	0.0-2.9	0.0-0.5	.02	.15			
Whitecloud-----	0-10	10-18	1.50-1.55	4.00-14.11	0.11-0.14	0.0-2.9	0.8-2.0	.17	.32	2	6	48
	10-15	7-15	1.65-1.70	14.11-42.34	0.05-0.10	0.0-2.9	0.0-0.5	.10	.43			
	15-60	3-8	1.65-1.70	141.00-705.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.20			
86:												
Pancheri-----	0-4	8-17	1.35-1.50	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.49	.49	5	4L	86
	4-9	5-18	1.35-1.50	4.00-14.11	0.19-0.21	0.0-2.9	0.5-1.0	.55	.55			
	9-29	5-18	1.40-1.60	4.00-14.11	0.11-0.13	0.0-2.9	0.0-0.5	.55	.55			
	29-60	5-18	1.40-1.60	4.00-14.11	0.11-0.13	0.0-2.9	0.0-0.5	.55	.55			
87:												
Pancheri-----	0-4	8-17	1.35-1.50	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.49	.49	5	4L	86
	4-9	5-18	1.35-1.50	4.00-14.11	0.19-0.21	0.0-2.9	0.5-1.0	.55	.55			
	9-29	5-18	1.40-1.60	4.00-14.11	0.11-0.13	0.0-2.9	0.0-0.5	.55	.55			
	29-60	5-18	1.40-1.60	4.00-14.11	0.11-0.13	0.0-2.9	0.0-0.5	.55	.55			
Polatis-----	0-3	10-18	1.50-1.60	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.49	.43	2	4L	86
	3-26	10-18	1.50-1.60	4.00-14.11	0.19-0.21	0.0-2.9	0.0-0.5	.55	.49			
	26-39	10-18	1.50-1.60	4.00-14.11	0.15-0.19	0.0-2.9	0.0-0.5	.55	.49			
	39-49	---	---	---	---	---	---	---	---			
88:												
Playas-----	0-60	35-70	---	0.01-0.42	---	6.0-8.9	0.0-0.1	.37	.37	5	---	---

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
89:												
Polatis-----	0-5	5-18	1.50-1.60	4.00-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.49	.49	2	4L	86
	5-34	10-18	1.50-1.60	4.00-14.11	0.19-0.21	0.0-2.9	0.0-0.5	.55	.55			
	34-44	---	---	---	---	---	---	---	---			
90:												
Portino-----	0-4	8-18	1.30-1.50	4.00-14.11	0.16-0.18	0.0-2.9	0.5-1.0	.49	.49	2	4L	86
	4-29	8-18	1.40-1.60	4.00-14.11	0.19-0.21	0.0-2.9	0.0-0.5	.49	.49			
	29-39	---	---	---	---	---	---	---	---			
Thornock-----	0-5	10-18	1.30-1.45	4.00-14.11	0.11-0.15	0.0-2.9	1.0-2.0	.28	.32	1	8	0
	5-10	20-24	1.15-1.30	1.41-4.23	0.19-0.21	0.0-2.9	1.0-3.0	.49	.49			
	10-16	8-18	1.45-1.55	4.00-14.11	0.11-0.17	0.0-2.9	0.0-0.5	.28	.37			
	16-26	---	---	---	---	---	---	---	---			
91:												
Riverlost-----	0-5	20-26	1.20-1.40	4.00-14.11	0.13-0.18	0.0-2.9	1.0-3.0	.24	.43	5	7	38
	5-16	28-40	1.20-1.40	1.41-4.23	0.17-0.21	3.0-5.9	0.0-0.5	.37	.43			
	16-26	35-45	1.20-1.40	0.42-1.41	0.17-0.21	3.0-5.9	0.0-0.5	.28	.32			
	26-34	30-40	1.20-1.40	1.41-4.23	0.17-0.21	3.0-5.9	0.0-0.5	.28	.32			
	34-48	10-40	1.25-1.45	1.41-4.23	0.09-0.14	3.0-5.9	0.0-0.5	.10	.32			
	48-60	10-40	1.30-1.50	14.11-42.34	0.07-0.11	0.0-2.9	0.0-0.5	.20	.32			
Frymire-----	0-4	28-40	1.20-1.40	1.41-4.23	0.08-0.14	3.0-5.9	2.0-4.0	.10	.20	5	5	56
	4-15	28-40	1.20-1.40	1.41-4.23	0.08-0.14	3.0-5.9	1.0-3.0	.10	.37			
	15-31	40-50	1.20-1.40	0.42-1.41	0.05-0.10	6.0-8.9	0.0-0.5	.10	.28			
	31-52	40-50	1.20-1.40	0.42-1.41	0.06-0.10	6.0-8.9	0.0-0.5	.10	.28			
	52-61	28-40	1.20-1.40	1.41-4.23	0.13-0.18	3.0-5.9	0.0-0.5	.20	.43			
92:												
Riverlost-----	0-5	20-26	1.20-1.40	4.00-14.11	0.13-0.18	0.0-2.9	1.0-3.0	.24	.43	5	7	38
	5-16	28-40	1.20-1.40	1.41-4.23	0.17-0.21	3.0-5.9	0.0-0.5	.37	.43			
	16-26	35-45	1.20-1.40	0.42-1.41	0.17-0.21	3.0-5.9	0.0-0.5	.28	.32			
	26-34	30-40	1.20-1.40	1.41-4.23	0.17-0.21	3.0-5.9	0.0-0.5	.28	.32			
	34-48	10-40	1.25-1.45	1.41-4.23	0.09-0.14	3.0-5.9	0.0-0.5	.10	.32			
	48-60	10-40	1.30-1.50	14.11-42.34	0.07-0.11	0.0-2.9	0.0-0.5	.20	.32			
Grouseville-----	0-7	20-27	1.30-1.50	1.41-4.23	0.19-0.21	0.0-2.9	2.0-5.0	.32	.37	5	6	48
	7-33	28-44	1.40-1.60	0.42-1.41	0.19-0.21	3.0-5.9	1.0-3.0	.28	.32			
	33-60	35-45	1.40-1.60	0.42-1.41	0.16-0.21	6.0-8.9	0.5-2.0	.28	.37			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
93:												
Riverlost-----	0-5	20-26	1.20-1.40	4.00-14.11	0.13-0.18	0.0-2.9	1.0-3.0	.24	.43	5	7	38
	5-16	28-40	1.20-1.40	1.41-4.23	0.17-0.21	3.0-5.9	0.0-0.5	.37	.43			
	16-26	35-45	1.20-1.40	0.42-1.41	0.17-0.21	3.0-5.9	0.0-0.5	.28	.32			
	26-34	30-40	1.20-1.40	1.41-4.23	0.17-0.21	3.0-5.9	0.0-0.5	.28	.32			
	34-48	10-40	1.25-1.45	1.41-4.23	0.09-0.14	3.0-5.9	0.0-0.5	.10	.32			
	48-60	10-40	1.30-1.50	14.11-42.34	0.07-0.11	0.0-2.9	0.0-0.5	.20	.32			
Soen-----	0-7	28-35	1.30-1.50	1.41-4.23	0.19-0.21	3.0-5.9	1.0-3.0	.37	.43	5	6	48
	7-22	35-50	1.40-1.60	0.42-1.41	0.14-0.21	6.0-8.9	0.5-1.0	.20	.20			
	22-60	15-25	1.40-1.60	1.41-4.23	0.12-0.21	3.0-5.9	0.5-1.0	.37	.43			
94:												
Rubble land-----	0-60	---	---	---	---	---	---	---	---	-	---	---
Milligan-----	0-10	8-15	1.30-1.60	14.11-42.34	0.08-0.13	0.0-2.9	1.0-3.0	.24	.37	2	7	38
	10-28	8-15	1.30-1.60	14.11-42.34	0.08-0.10	0.0-2.9	0.5-1.0	.10	.37			
	28-38	0-1	1.45-1.60	141.00-705.00	0.01-0.02	0.0-2.9	0.0-0.5	.10	.37			
	38-48	---	---	---	---	---	---	---	---			
95:												
Sanfelipe-----	0-3	12-20	1.20-1.35	4.00-14.11	0.12-0.15	0.0-2.9	1.0-2.0	.24	.32	2	7	38
	3-42	12-20	1.25-1.40	4.00-14.11	0.05-0.12	0.0-2.9	0.5-1.0	.10	.32			
	42-60	2-10	1.35-1.50	4.00-141.14	0.03-0.06	0.0-2.9	0.0-0.5	.05	.24			
96:												
Sanfelipe-----	0-3	12-20	1.20-1.35	4.00-14.11	0.12-0.15	0.0-2.9	1.0-2.0	.24	.32	2	7	38
	3-42	12-20	1.25-1.40	4.00-14.11	0.05-0.12	0.0-2.9	0.5-1.0	.10	.32			
	42-60	2-10	1.35-1.50	4.00-141.14	0.03-0.06	0.0-2.9	0.0-0.5	.05	.24			
97:												
Sanfelipe-----	0-15	12-20	1.10-1.20	14.11-42.34	0.16-0.18	0.0-2.9	1.0-2.0	.20	.32	2	4L	86
	15-30	12-20	1.25-1.40	4.00-14.11	0.05-0.12	0.0-2.9	0.5-1.0	.10	.32			
	30-60	12-20	1.35-1.50	4.00-141.14	0.03-0.06	0.0-2.9	0.0-0.5	.05	.24			
McCaleb-----	0-5	14-18	1.35-1.45	4.00-14.11	0.17-0.19	0.0-2.9	1.0-2.0	.37	.37	2	4L	86
	5-60	14-18	1.45-1.55	4.00-14.11	0.15-0.17	0.0-2.9	0.0-0.5	.37	.37			
98:												
Sanfelipe-----	0-3	12-20	1.20-1.35	4.00-14.11	0.12-0.15	0.0-2.9	1.0-2.0	.24	.32	2	7	38
	3-42	12-20	1.25-1.40	4.00-14.11	0.05-0.12	0.0-2.9	0.5-1.0	.10	.32			
	42-60	2-10	1.35-1.50	4.00-141.14	0.03-0.06	0.0-2.9	0.0-0.5	.05	.24			
Simeroi-----	0-4	10-20	1.50-1.55	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.28	.43	2	7	38
	4-26	10-20	1.55-1.65	4.00-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.15	.43			
	26-60	10-15	1.60-1.65	4.00-42.34	0.04-0.07	0.0-2.9	0.5-1.0	.10	.20			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
99:												
Simeroi-----	0-4	10-20	1.50-1.55	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.28	.43	2	7	38
	4-26	10-20	1.55-1.65	4.00-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.15	.43			
	26-60	10-15	1.60-1.65	4.00-42.34	0.04-0.07	0.0-2.9	0.5-1.0	.10	.20			
100:												
Simeroi-----	0-4	10-20	1.50-1.55	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.28	.43	2	7	38
	4-26	10-20	1.55-1.65	4.00-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.15	.43			
	26-60	10-15	1.60-1.65	4.00-42.34	0.04-0.07	0.0-2.9	0.5-1.0	.10	.20			
101:												
Simeroi-----	0-4	10-20	1.50-1.55	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.28	.43	2	6	48
	4-26	10-20	1.55-1.65	4.00-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.15	.43			
	26-60	10-15	1.60-1.65	4.00-42.34	0.04-0.07	0.0-2.9	0.5-1.0	.10	.20			
102:												
Simeroi, cool-----	0-4	10-20	1.50-1.55	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.28	.43	2	7	38
	4-26	10-20	1.55-1.65	4.00-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.15	.43			
	26-60	10-15	1.60-1.65	4.00-42.34	0.04-0.07	0.0-2.9	0.5-1.0	.10	.20			
103:												
Simeroi, dry-----	0-4	10-20	1.50-1.55	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.28	.43	2	7	38
	4-26	10-20	1.55-1.65	4.00-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.15	.43			
	26-60	10-15	1.60-1.65	4.00-42.34	0.04-0.07	0.0-2.9	0.5-1.0	.10	.20			
104:												
Simeroi-----	0-4	10-20	1.50-1.55	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.28	.43	2	7	38
	4-26	10-20	1.55-1.65	4.00-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.15	.43			
	26-60	10-15	1.60-1.65	4.00-42.34	0.04-0.07	0.0-2.9	0.5-1.0	.10	.20			
Paint-----	0-11	12-19	1.50-1.55	4.00-14.11	0.11-0.14	0.0-2.9	1.0-2.0	.15	.28	2	6	48
	11-19	12-19	1.50-1.55	4.00-14.11	0.06-0.08	0.0-2.9	1.0-2.0	.20	.37			
	19-20	---	---	0.01-0.42	0.00-0.00	---	---	---	---			
	20-60	5-10	1.50-1.60	42.00-141.14	0.00-0.00	0.0-2.9	0.0-0.5	.02	.15			
105:												
Simeroi, dry-----	0-4	10-20	1.50-1.55	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.28	.43	2	7	38
	4-26	10-20	1.55-1.65	4.00-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.15	.43			
	26-60	10-15	1.60-1.65	4.00-42.34	0.04-0.07	0.0-2.9	0.5-1.0	.10	.20			
Simeroi-----	0-4	10-20	1.50-1.55	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.28	.43	2	7	38
	4-26	10-20	1.55-1.65	4.00-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.15	.43			
	26-60	10-15	1.60-1.65	4.00-42.34	0.04-0.07	0.0-2.9	0.5-1.0	.10	.20			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
106: Simeroi-----	0-4	10-20	1.50-1.55	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.28	.43	2	6	48
	4-26	10-20	1.55-1.65	4.00-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.15	.43			
	26-60	10-15	1.60-1.65	4.00-42.34	0.04-0.07	0.0-2.9	0.5-1.0	.10	.20			
Sparmo-----	0-9	12-18	1.35-1.45	4.00-14.11	0.17-0.20	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	9-22	12-16	1.35-1.50	4.00-14.11	0.09-0.13	0.0-2.9	0.5-1.0	.32	.43			
	22-29	12-16	1.35-1.50	4.00-14.11	0.09-0.13	0.0-2.9	0.5-1.0	.32	.43			
	29-40	12-16	1.35-1.50	4.00-14.11	0.09-0.13	0.0-2.9	0.5-1.0	.32	.43			
	40-60	5-14	1.50-1.65	14.11-42.34	0.05-0.09	0.0-2.9	0.0-0.5	.10	.37			
107: Simeroi-----	0-4	10-20	1.50-1.55	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.28	.43	2	7	38
	4-26	10-20	1.55-1.65	4.00-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.15	.43			
	26-60	10-15	1.60-1.65	4.00-42.34	0.04-0.07	0.0-2.9	0.5-1.0	.10	.20			
Slide-----	0-2	10-18	1.40-1.60	4.00-14.11	0.11-0.14	0.0-2.9	0.5-1.0	.28	.32	2	5	56
	2-16	10-18	1.40-1.60	4.00-14.11	0.09-0.12	0.0-2.9	0.5-1.0	.24	.32			
	16-60	7-16	1.50-1.70	4.00-42.34	0.05-0.06	0.0-2.9	0.0-0.5	.10	.24			
McCaleb-----	0-3	14-18	1.35-1.45	4.00-14.11	0.14-0.16	0.0-2.9	1.0-2.0	.37	.37	2	4L	86
	3-13	14-18	1.40-1.50	4.00-14.11	0.13-0.15	0.0-2.9	0.5-1.0	.32	.37			
	13-45	14-18	1.45-1.55	4.00-14.11	0.15-0.17	0.0-2.9	0.0-0.5	.37	.37			
	45-60	14-18	1.45-1.55	4.00-14.11	0.06-0.10	0.0-2.9	0.0-0.5	.37	.37			
108: Simeroi-----	0-4	10-20	1.50-1.55	4.00-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.28	.43	2	7	38
	4-26	10-20	1.55-1.65	4.00-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.15	.43			
	26-60	10-15	1.60-1.65	4.00-42.34	0.04-0.07	0.0-2.9	0.5-1.0	.10	.20			
Bealand-----	0-5	10-25	1.20-1.40	4.00-14.11	0.14-0.16	0.0-2.9	1.0-2.0	.20	.32	5	5	56
	5-10	10-20	1.30-1.50	4.00-14.11	0.14-0.16	0.0-2.9	0.5-1.0	.20	.37			
	10-39	10-18	1.40-1.60	4.00-14.11	0.08-0.10	0.0-2.9	0.0-0.5	.15	.43			
	39-60	10-18	1.40-1.60	4.00-14.11	0.08-0.10	0.0-2.9	0.0-0.5	.15	.43			
109: Slide-----	0-3	10-18	1.40-1.60	4.00-14.11	0.11-0.14	0.0-2.9	0.5-1.0	.28	.32	2	5	56
	3-9	10-18	1.40-1.60	4.00-14.11	0.09-0.12	0.0-2.9	0.5-1.0	.24	.32			
	9-18	7-16	1.50-1.70	4.00-42.34	0.05-0.06	0.0-2.9	0.0-0.5	.10	.24			
	18-32	10-16	1.20-1.40	14.11-42.34	0.08-0.12	0.0-2.9	0.5-1.0	.10	.20			
	32-60	7-10	1.65-1.90	42.00-141.14	0.02-0.03	0.0-2.9	0.0-0.5	.05	.17			
110: Snowslide-----	0-8	12-18	1.35-1.45	4.00-14.11	0.11-0.14	0.0-2.9	0.5-1.0	.24	.37	5	8	0
	8-14	11-15	1.60-1.65	4.00-14.11	0.09-0.11	0.0-2.9	0.5-1.0	.17	.37			
	14-60	5-18	1.55-1.60	4.00-14.11	0.01-0.05	0.0-2.9	0.5-1.0	.05	.28			



## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
111: Snowslide-----	0-3	12-18	1.35-1.45	4.00-14.11	0.11-0.14	0.0-2.9	0.5-1.0	.24	.37	5	8	0
	3-19	11-15	1.60-1.65	4.00-14.11	0.09-0.11	0.0-2.9	0.5-1.0	.17	.37			
	19-60	5-18	1.55-1.60	4.00-14.11	0.01-0.05	0.0-2.9	0.5-1.0	.05	.28			
112: Snowslide-----	0-7	12-18	1.35-1.45	4.00-14.11	0.11-0.14	0.0-2.9	0.5-1.0	.24	.37	5	8	0
	7-13	11-15	1.60-1.65	4.00-14.11	0.09-0.11	0.0-2.9	0.5-1.0	.17	.37			
	13-60	5-18	1.55-1.60	4.00-14.11	0.01-0.05	0.0-2.9	0.5-1.0	.05	.28			
Zer-----	0-5	9-18	1.35-1.55	4.00-14.11	0.11-0.14	0.0-2.9	1.0-2.0	.24	.43	4	5	56
	5-10	9-18	1.45-1.60	4.00-42.34	0.10-0.15	0.0-2.9	0.5-1.0	.24	.43			
	10-22	9-18	1.45-1.60	14.11-42.34	0.08-0.13	0.0-2.9	0.5-1.0	.15	.37			
	22-41	5-16	1.50-1.65	14.11-42.34	0.03-0.08	0.0-2.9	0.0-0.5	.10	.28			
	41-60	2-8	1.55-1.65	42.00-141.14	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28			
113: Snowslide-----	0-3	12-18	1.35-1.45	4.00-14.11	0.11-0.14	0.0-2.9	0.5-1.0	.24	.37	5	8	0
	3-9	11-15	1.60-1.65	4.00-14.11	0.09-0.11	0.0-2.9	0.5-1.0	.17	.37			
	9-60	5-18	1.55-1.60	4.00-14.11	0.01-0.05	0.0-2.9	0.5-1.0	.05	.28			
Zer-----	0-5	9-18	1.35-1.55	4.00-14.11	0.11-0.14	0.0-2.9	1.0-2.0	.24	.43	4	5	56
	5-10	9-18	1.45-1.60	4.00-42.34	0.10-0.15	0.0-2.9	0.5-1.0	.24	.43			
	10-22	9-18	1.45-1.60	14.11-42.34	0.08-0.13	0.0-2.9	0.5-1.0	.15	.37			
	22-41	5-16	1.50-1.65	14.11-42.34	0.03-0.08	0.0-2.9	0.0-0.5	.10	.28			
	41-60	2-8	1.55-1.65	42.00-141.14	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28			
Snowslide, low precipitation-----	0-8	12-18	1.35-1.45	4.00-14.11	0.11-0.14	0.0-2.9	0.5-1.0	.24	.37	5	8	0
	8-60	5-18	1.55-1.60	4.00-14.11	0.01-0.05	0.0-2.9	0.5-1.0	.05	.28			
114: Soen-----	0-7	28-35	1.30-1.50	1.41-4.23	0.19-0.21	3.0-5.9	1.0-3.0	.37	.43	5	6	48
	7-22	35-50	1.40-1.60	0.42-1.41	0.14-0.21	6.0-8.9	0.5-1.0	.20	.20			
	22-60	15-25	1.40-1.60	1.41-4.23	0.12-0.21	3.0-5.9	0.5-1.0	.37	.43			
115: Soen-----	0-7	28-35	1.30-1.50	1.41-4.23	0.19-0.21	3.0-5.9	1.0-3.0	.37	.43	5	6	48
	7-22	35-50	1.40-1.60	0.42-1.41	0.14-0.21	6.0-8.9	0.5-1.0	.20	.20			
	22-60	15-25	1.40-1.60	1.41-4.23	0.12-0.21	3.0-5.9	0.5-1.0	.37	.43			
Justesen-----	0-10	12-18	1.20-1.30	4.00-14.11	0.16-0.18	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	10-25	23-34	1.30-1.45	1.41-4.23	0.16-0.21	3.0-5.9	0.5-2.0	.37	.37			
	25-60	15-20	1.40-1.50	4.00-14.11	0.13-0.18	0.0-2.9	0.0-0.5	.28	.32			

Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
116: Sparmo-----	0-9	12-18	1.35-1.45	4.00-14.11	0.17-0.20	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	9-22	12-16	1.35-1.50	4.00-14.11	0.09-0.13	0.0-2.9	0.5-1.0	.32	.43			
	22-29	12-16	1.35-1.50	4.00-14.11	0.09-0.13	0.0-2.9	0.5-1.0	.32	.43			
	29-40	12-16	1.35-1.50	4.00-14.11	0.09-0.13	0.0-2.9	0.5-1.0	.32	.43			
	40-60	5-14	1.50-1.65	14.11-42.34	0.05-0.09	0.0-2.9	0.0-0.5	.10	.37			
117: Sparmo-----	0-9	12-18	1.35-1.45	4.00-14.11	0.17-0.20	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	9-22	12-16	1.35-1.50	4.00-14.11	0.09-0.13	0.0-2.9	0.5-1.0	.32	.43			
	22-29	12-16	1.35-1.50	4.00-14.11	0.09-0.13	0.0-2.9	0.5-1.0	.32	.43			
	29-40	12-16	1.35-1.50	4.00-14.11	0.09-0.13	0.0-2.9	0.5-1.0	.32	.43			
	40-60	5-14	1.50-1.65	14.11-42.34	0.05-0.09	0.0-2.9	0.0-0.5	.10	.37			
Bluedome-----	0-9	8-14	1.40-1.50	4.00-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.32	.37	2	4L	86
	9-23	10-16	1.50-1.60	4.00-14.11	0.10-0.19	0.0-2.9	0.0-0.5	.32	.37			
	23-24	---	---	0.01-0.42	0.00-0.00	---	---	---	---			
	24-60	5-12	1.60-1.70	141.00-705.00	0.00-0.00	0.0-2.9	0.0-0.5	.10	.20			
118: Sparmo-----	0-9	12-18	1.35-1.45	4.00-14.11	0.17-0.20	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	9-22	12-16	1.35-1.50	4.00-14.11	0.09-0.13	0.0-2.9	0.5-1.0	.32	.43			
	22-29	12-16	1.35-1.50	4.00-14.11	0.09-0.13	0.0-2.9	0.5-1.0	.32	.43			
	29-40	12-16	1.35-1.50	4.00-14.11	0.09-0.13	0.0-2.9	0.5-1.0	.32	.43			
	40-60	5-14	1.50-1.65	14.11-42.34	0.05-0.09	0.0-2.9	0.0-0.5	.10	.37			
Zer-----	0-2	9-18	1.35-1.55	4.00-14.11	0.11-0.14	0.0-2.9	1.0-2.0	.24	.43	3	5	56
	2-8	9-18	1.45-1.60	4.00-42.34	0.10-0.15	0.0-2.9	0.5-1.0	.24	.43			
	8-14	9-18	1.45-1.60	14.11-42.34	0.08-0.13	0.0-2.9	0.5-1.0	.15	.37			
	14-25	5-16	1.50-1.65	14.11-42.34	0.03-0.08	0.0-2.9	0.0-0.5	.10	.28			
	25-60	2-8	1.55-1.65	42.00-141.14	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28			
119: Splittop-----	0-3	18-25	1.20-1.40	4.00-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37	2	6	48
	3-8	20-27	1.20-1.40	4.00-14.11	0.16-0.21	0.0-2.9	0.5-1.0	.37	.37			
	8-26	20-27	1.20-1.40	4.00-14.11	0.06-0.12	0.0-2.9	0.0-0.5	.20	.43			
	26-32	20-27	1.20-1.40	4.00-14.11	0.06-0.12	0.0-2.9	0.0-0.5	.20	.43			
	32-42	---	---	---	---	---	---	---	---			
Atomic-----	0-15	18-27	1.25-1.35	4.00-14.11	0.16-0.19	3.0-5.9	1.0-2.0	.37	.37	3	5	56
	15-34	18-27	1.30-1.40	4.00-14.11	0.16-0.21	3.0-5.9	0.5-1.0	.37	.37			
	34-46	18-27	1.35-1.45	4.00-14.11	0.10-0.14	3.0-5.9	0.0-0.5	.24	.43			
	46-56	---	---	---	---	---	---	---	---			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
120: Splittop-----	0-3	18-25	1.20-1.40	4.00-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37	2	6	48
	3-8	20-27	1.20-1.40	4.00-14.11	0.16-0.21	0.0-2.9	0.5-1.0	.37	.37			
	8-26	20-27	1.20-1.40	4.00-14.11	0.06-0.12	0.0-2.9	0.0-0.5	.20	.43			
	26-32	20-27	1.20-1.40	4.00-14.11	0.06-0.12	0.0-2.9	0.0-0.5	.20	.43			
	32-42	---	---	---	---	---	---	---	---			
Coffee-----	0-7	15-26	1.20-1.40	4.00-14.11	0.14-0.17	0.0-2.9	1.0-2.0	.43	.49	3	4L	86
	7-25	12-27	1.20-1.40	4.00-14.11	0.06-0.14	3.0-5.9	0.5-1.0	.43	.49			
	25-48	15-33	1.10-1.40	4.00-14.11	0.06-0.14	3.0-5.9	0.0-0.5	.37	.43			
	48-58	---	---	---	---	---	---	---	---			
121: Stan-----	0-2	8-16	1.10-1.20	14.11-42.34	0.11-0.13	0.0-2.9	1.0-2.0	.17	.17	4	3	86
	2-13	8-16	1.15-1.35	14.11-42.34	0.11-0.16	0.0-2.9	1.0-2.0	.17	.17			
	13-33	8-16	1.15-1.35	14.11-42.34	0.11-0.15	0.0-2.9	0.5-1.0	.17	.17			
	33-40	8-14	1.20-1.40	42.00-141.14	0.07-0.15	0.0-2.9	0.0-0.5	.17	.37			
	40-60	5-10	1.20-1.40	42.00-141.14	0.07-0.10	0.0-2.9	0.0-0.5	.17	.28			
122: Stan-----	0-2	8-16	1.10-1.20	14.11-42.34	0.11-0.13	0.0-2.9	1.0-2.0	.17	.17	4	3	86
	2-13	8-16	1.15-1.35	14.11-42.34	0.11-0.16	0.0-2.9	1.0-2.0	.17	.17			
	13-33	8-16	1.15-1.35	14.11-42.34	0.11-0.15	0.0-2.9	0.5-1.0	.17	.17			
	33-40	8-14	1.20-1.40	42.00-141.14	0.07-0.10	0.0-2.9	0.0-0.5	.17	.37			
	40-60	5-10	1.20-1.40	42.00-141.14	0.07-0.15	0.0-2.9	0.0-0.5	.17	.28			
Breitenbach-----	0-9	12-20	1.10-1.20	14.11-42.34	0.10-0.13	0.0-2.9	1.0-2.0	.32	.32	3	3	86
	9-17	12-18	1.15-1.30	4.00-14.11	0.11-0.17	0.0-2.9	1.0-2.0	.20	.32			
	17-30	10-16	1.15-1.30	4.00-14.11	0.09-0.12	0.0-2.9	0.5-1.0	.17	.32			
	30-34	10-16	1.20-1.40	14.11-42.34	0.05-0.09	0.0-2.9	0.5-1.0	.10	.24			
	34-60	0-8	1.20-1.40	141.00-705.00	0.02-0.09	0.0-2.9	0.0-0.5	.05	.20			
123: Stan, loamy fine sand surface-----	0-4	8-16	1.10-1.20	14.11-42.34	0.11-0.13	0.0-2.9	1.0-2.0	.15	.17	4	2	134
	4-15	8-16	1.15-1.35	14.11-42.34	0.11-0.16	0.0-2.9	1.0-2.0	.17	.17			
	15-29	8-16	1.15-1.35	14.11-42.34	0.11-0.15	0.0-2.9	0.5-1.0	.17	.17			
	29-40	8-14	1.20-1.40	42.00-141.14	0.07-0.10	0.0-2.9	0.0-0.5	.17	.37			
	40-60	5-10	1.20-1.40	42.00-141.14	0.07-0.15	0.0-2.9	0.0-0.5	.17	.28			
Stan-----	0-2	8-16	1.10-1.20	14.11-42.34	0.11-0.13	0.0-2.9	1.0-2.0	.17	.17	4	3	86
	2-13	8-16	1.15-1.35	14.11-42.34	0.11-0.16	0.0-2.9	1.0-2.0	.17	.17			
	13-33	8-16	1.15-1.35	14.11-42.34	0.11-0.15	0.0-2.9	0.5-1.0	.17	.17			
	33-40	8-14	1.20-1.40	42.00-141.14	0.07-0.10	0.0-2.9	0.0-0.5	.17	.37			
	40-60	5-10	1.20-1.40	42.00-141.14	0.07-0.15	0.0-2.9	0.0-0.5	.17	.28			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
124: Starlite-----	0-14	8-15	1.20-1.40	4.00-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	14-32	9-37	1.20-1.40	4.00-14.11	0.16-0.20	0.0-2.9	0.5-1.0	.43	.43			
	32-37	9-37	1.20-1.40	1.41-4.23	0.19-0.21	3.0-5.9	0.3-0.5	.43	.43			
	37-47	9-37	1.20-1.40	4.00-14.11	0.14-0.21	0.0-2.9	0.3-0.5	.43	.43			
	47-60	6-10	1.20-1.40	14.11-42.34	0.10-0.16	0.0-2.9	0.1-0.3	.37	.37			
125: Techick-----	0-4	10-20	1.25-1.50	4.00-14.11	0.16-0.18	0.0-2.9	1.0-3.0	.32	.32	4	5	56
	4-12	25-34	1.35-1.60	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.20	.20			
	12-25	25-34	1.35-1.60	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.20	.20			
	25-46	10-20	1.45-1.65	4.00-14.11	0.16-0.18	0.0-2.9	0.5-1.0	.32	.32			
	46-60	0-3	1.45-1.65	141.00-705.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.20			
Soelberg-----	0-2	18-25	1.15-1.30	4.00-14.11	0.16-0.18	0.0-2.9	1.0-3.0	.37	.37	3	6	48
	2-30	25-34	1.20-1.40	1.41-4.23	0.15-0.21	3.0-5.9	1.0-2.0	.24	.37			
	30-34	0-2	1.20-1.40	141.00-705.00	0.01-0.04	0.0-2.9	0.5-1.0	.10	.20			
	34-60	0-2	1.20-1.40	141.00-705.00	0.01-0.04	0.0-2.9	0.5-1.0	.05	.20			
126: Techick-----	0-4	10-20	1.25-1.50	4.00-14.11	0.16-0.18	0.0-2.9	1.0-3.0	.32	.32	4	5	56
	4-12	25-34	1.35-1.60	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.20	.20			
	12-25	25-34	1.35-1.60	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.20	.20			
	25-46	10-20	1.45-1.65	4.00-14.11	0.16-0.18	0.0-2.9	0.5-1.0	.32	.32			
	46-60	0-3	1.45-1.65	141.00-705.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.20			
Soelberg-----	0-10	18-25	1.15-1.30	4.00-14.11	0.15-0.19	0.0-2.9	1.0-3.0	.37	.37	3	6	48
	10-28	25-34	1.20-1.40	1.41-4.23	0.15-0.19	3.0-5.9	1.0-2.0	.24	.37			
	28-36	10-18	1.40-1.60	4.00-14.11	0.09-0.12	0.0-2.9	0.5-1.0	.24	.32			
	36-40	0-2	1.20-1.40	141.00-705.00	0.01-0.03	0.0-2.9	0.5-1.0	.10	.20			
	40-60	0-2	1.20-1.40	141.00-705.00	0.01-0.03	0.0-2.9	0.5-1.0	.05	.20			
Lesbut-----	0-3	12-22	1.10-1.20	4.00-14.11	0.11-0.15	0.0-2.9	1.0-2.0	.32	.37	2	6	48
	3-13	12-22	1.10-1.20	4.00-14.11	0.11-0.15	0.0-2.9	1.0-2.0	.32	.37			
	13-19	8-18	1.15-1.30	4.00-14.11	0.09-0.15	0.0-2.9	1.0-2.0	.28	.37			
	19-60	0-5	1.20-1.40	141.00-705.00	0.01-0.04	0.0-2.9	0.0-0.5	.02	.17			
127: Techicknot-----	0-4	20-25	1.25-1.30	4.00-14.11	0.15-0.18	0.0-2.9	1.0-2.0	.37	.43	5	6	48
	4-29	25-34	1.30-1.40	1.41-14.11	0.16-0.21	3.0-5.9	1.0-2.0	.37	.43			
	29-48	22-30	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.43			
	48-60	20-30	1.40-1.50	1.41-14.11	0.16-0.21	0.0-2.9	0.0-0.5	.37	.43			
Atom-----	0-7	18-27	1.15-1.35	4.00-14.11	0.19-0.21	3.0-5.9	1.0-2.0	.43	.49	5	4L	86
	7-15	17-33	1.15-1.35	1.41-4.23	0.12-0.15	3.0-5.9	0.5-1.0	.37	.43			
	15-60	18-35	1.20-1.50	1.41-4.23	0.12-0.17	3.0-5.9	0.0-0.5	.43	.49			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
127: Nargon-----	0-5	17-25	1.20-1.40	4.00-14.11	0.14-0.16	0.0-2.9	1.0-2.0	.37	.43	2	5	56
	5-15	20-30	1.20-1.40	1.41-4.23	0.19-0.21	3.0-5.9	0.5-1.0	.37	.43			
	15-22	18-25	1.20-1.40	1.41-4.23	0.17-0.19	0.0-2.9	0.0-0.5	.37	.43			
	22-32	---	---	---	---	---	---	---	---			
128: Tenno-----	0-4	8-18	1.20-1.40	4.00-14.11	0.14-0.15	0.0-2.9	1.0-3.0	.32	.49	1	5	56
	4-13	8-18	1.10-1.30	4.00-14.11	0.16-0.21	0.0-2.9	0.5-1.0	.43	.49			
	13-18	8-18	1.20-1.40	4.00-14.11	0.15-0.17	0.0-2.9	0.5-1.0	.32	.43			
	18-28	---	---	---	---	---	---	---	---			
Splittop-----	0-3	18-25	1.20-1.40	4.00-14.11	0.16-0.19	0.0-2.9	1.0-2.0	.37	.37	2	6	48
	3-30	20-27	1.20-1.40	4.00-14.11	0.14-0.18	0.0-2.9	0.5-1.0	.37	.37			
	30-34	20-27	1.20-1.40	4.00-14.11	0.06-0.12	0.0-2.9	0.0-0.5	.20	.43			
	34-44	---	---	---	---	---	---	---	---			
Lava flows-----	0-60	---	---	---	---	---	---	---	---	-	---	---
129: Tenno-----	0-4	8-18	1.20-1.40	4.00-14.11	0.14-0.15	0.0-2.9	1.0-3.0	.32	.49	1	5	56
	4-13	8-18	1.10-1.30	4.00-14.11	0.16-0.21	0.0-2.9	0.5-1.0	.43	.49			
	13-18	8-18	1.20-1.40	4.00-14.11	0.15-0.17	0.0-2.9	0.5-1.0	.32	.43			
	18-28	---	---	---	---	---	---	---	---			
Splittop-----	0-4	18-25	1.20-1.40	4.00-14.11	0.14-0.16	0.0-2.9	1.0-2.0	.37	.37	2	6	48
	4-30	20-27	1.20-1.40	4.00-14.11	0.14-0.18	0.0-2.9	0.5-1.0	.37	.37			
	30-40	---	---	---	---	---	---	---	---			
McCarey-----	0-4	10-20	1.20-1.35	4.00-14.11	0.12-0.14	0.0-2.9	1.0-3.0	.37	.37	2	4	86
	4-17	20-34	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.32	.32			
	17-21	15-25	1.40-1.60	4.00-14.11	0.16-0.21	0.0-2.9	0.0-1.0	.43	.43			
	21-31	---	---	---	---	---	---	---	---			
130: Thornock-----	0-5	10-18	1.30-1.45	4.00-14.11	0.11-0.15	0.0-2.9	1.0-2.0	.28	.32	1	8	0
	5-10	20-24	1.15-1.30	1.41-4.23	0.19-0.21	0.0-2.9	1.0-3.0	.49	.49			
	10-16	8-18	1.45-1.55	4.00-14.11	0.11-0.17	0.0-2.9	0.0-0.5	.28	.37			
	16-26	---	---	---	---	---	---	---	---			
Portino-----	0-4	8-18	1.30-1.50	4.00-14.11	0.14-0.16	0.0-2.9	0.5-1.0	.43	.49	2	4L	86
	4-29	8-18	1.40-1.60	4.00-14.11	0.17-0.21	0.0-2.9	0.0-0.5	.49	.49			
	29-39	---	---	---	---	---	---	---	---			

Physical Properties of the Soils--Continued

[illegible]

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
134: Blackspar-----	0-6	10-20	1.35-1.55	4.00-14.11	0.05-0.07	0.0-2.9	1.0-2.0	.24	.37	1	8	0
	6-12	20-30	1.40-1.60	4.00-14.11	0.04-0.06	0.0-2.9	0.5-1.0	.20	.43			
	12-22	---	---	---	---	---	---	---	---			
135: Whitecloud-----	0-11	10-18	1.50-1.55	4.00-14.11	0.11-0.14	0.0-2.9	0.8-2.0	.17	.32	3	6	48
	11-20	7-15	1.65-1.70	14.11-42.34	0.05-0.10	0.0-2.9	0.0-0.5	.10	.43			
	20-60	3-8	1.65-1.70	141.00-705.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.20			
136: Whitecloud-----	0-12	10-18	1.50-1.55	4.00-14.11	0.11-0.14	0.0-2.9	0.8-2.0	.17	.32	3	6	48
	12-22	7-15	1.65-1.70	14.11-42.34	0.05-0.10	0.0-2.9	0.0-0.5	.10	.43			
	22-60	3-8	1.65-1.70	141.00-705.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.20			
Sanfelipe-----	0-10	12-20	1.20-1.35	4.00-14.11	0.12-0.15	0.0-2.9	1.0-2.0	.24	.32	2	7	38
	10-29	12-20	1.25-1.40	4.00-14.11	0.05-0.12	0.0-2.9	0.5-1.0	.10	.32			
	29-60	2-10	1.35-1.50	4.00-141.14	0.03-0.06	0.0-2.9	0.0-0.5	.05	.24			
137: Zeale-----	0-10	15-18	1.20-1.40	4.00-14.11	0.11-0.14	0.0-2.9	2.0-4.0	.20	.37	2	5	56
	10-60	15-25	1.40-1.55	4.00-14.11	0.03-0.10	0.0-2.9	0.5-2.0	.15	.37			
Zeale, high precipitation-----	0-14	15-18	1.20-1.40	4.00-14.11	0.11-0.14	0.0-2.9	2.0-4.0	.20	.37	2	5	56
	14-60	15-25	1.40-1.55	4.00-14.11	0.03-0.10	0.0-2.9	0.5-2.0	.15	.37			
138: Zeale-----	0-10	15-18	1.20-1.40	4.00-14.11	0.11-0.14	0.0-2.9	2.0-4.0	.20	.37	2	5	56
	10-60	15-25	1.40-1.55	4.00-14.11	0.03-0.10	0.0-2.9	0.5-2.0	.15	.37			
Zeale, high precipitation-----	0-14	15-18	1.20-1.40	4.00-14.11	0.11-0.14	0.0-2.9	2.0-4.0	.20	.37	2	5	56
	14-60	15-25	1.40-1.55	4.00-14.11	0.03-0.10	0.0-2.9	0.5-2.0	.15	.37			
139: Zeale-----	0-15	15-18	1.20-1.40	4.00-14.11	0.11-0.14	0.0-2.9	2.0-4.0	.20	.37	2	5	56
	15-60	15-25	1.40-1.55	4.00-14.11	0.03-0.10	0.0-2.9	0.5-2.0	.15	.37			
Coalkiln-----	0-1	0-25	0.10-0.30	42.00-705.00	0.30-0.60	---	60-95	---	---	2	5	56
	1-5	12-16	1.20-1.40	4.00-14.11	0.08-0.12	0.0-2.9	4.0-8.0	.10	.24			
	5-9	12-16	1.20-1.40	4.00-14.11	0.11-0.15	0.0-2.9	2.0-4.0	.20	.28			
	9-17	12-18	1.20-1.40	4.00-14.11	0.07-0.10	0.0-2.9	1.0-3.0	.15	.43			
	17-41	18-24	1.20-1.40	4.00-14.11	0.07-0.10	0.0-2.9	0.0-0.5	.15	.43			
	41-60	12-18	1.20-1.40	4.00-14.11	0.04-0.08	0.0-2.9	0.0-0.5	.10	.49			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
139: Jimbee-----	0-3	12-22	1.30-1.45	4.00-14.11	0.10-0.14	0.0-2.9	1.0-2.0	.20	.37	1	5	56
	3-18	12-22	1.30-1.45	4.00-14.11	0.07-0.09	0.0-2.9	0.5-2.0	.15	.32			
	18-28	---	---	---	---	---	---	---	---			
140: Zeebar, cool-----	0-4	18-26	1.40-1.55	4.00-14.11	0.12-0.14	0.0-2.9	2.0-3.0	.20	.37	5	7	38
	4-12	18-27	1.45-1.55	4.00-14.11	0.09-0.13	0.0-2.9	1.0-2.0	.17	.43			
	12-50	20-30	1.50-1.60	1.41-4.23	0.07-0.12	0.0-2.9	0.5-1.0	.15	.32			
	50-60	15-25	1.50-1.65	4.00-14.11	0.02-0.03	0.0-2.9	0.0-0.5	.10	.32			
Zeebar-----	0-3	18-26	1.40-1.55	4.00-14.11	0.12-0.14	0.0-2.9	2.0-3.0	.20	.37	5	7	38
	3-19	18-27	1.45-1.55	4.00-14.11	0.09-0.13	0.0-2.9	1.0-2.0	.17	.43			
	19-41	20-30	1.50-1.60	1.41-4.23	0.07-0.12	0.0-2.9	0.5-1.0	.15	.32			
	41-60	15-25	1.50-1.65	4.00-14.11	0.02-0.03	0.0-2.9	0.0-0.5	.10	.32			
141: Zeebar-----	0-4	18-26	1.40-1.55	4.00-14.11	0.12-0.14	0.0-2.9	2.0-3.0	.20	.37	5	7	38
	4-10	18-27	1.45-1.55	4.00-14.11	0.09-0.13	0.0-2.9	1.0-2.0	.17	.43			
	10-28	20-27	1.50-1.60	1.41-4.23	0.07-0.12	0.0-2.9	0.5-1.0	.15	.32			
	28-37	25-30	1.50-1.65	1.41-4.23	0.02-0.03	0.0-2.9	0.0-0.5	.10	.32			
	37-60	15-25	1.50-1.65	4.00-14.11	0.02-0.03	0.0-2.9	0.0-0.5	.10	.32			
Parvis-----	0-8	18-26	1.20-1.40	4.00-14.11	0.11-0.15	0.0-2.9	2.0-4.0	.17	.32	5	7	38
	8-28	18-26	1.20-1.40	4.00-14.11	0.07-0.12	0.0-2.9	1.0-3.0	.10	.37			
	28-43	28-34	1.20-1.40	1.41-4.23	0.08-0.10	3.0-5.9	0.0-0.5	.10	.37			
	43-60	28-34	1.20-1.40	1.41-4.23	0.04-0.08	3.0-5.9	0.0-0.5	.05	.37			
Howcan-----	0-4	10-25	1.10-1.30	14.11-42.34	0.10-0.13	0.0-2.9	2.0-6.0	.15	.24	3	5	56
	4-10	10-25	1.15-1.30	14.11-42.34	0.06-0.11	0.0-2.9	1.0-3.0	.10	.37			
	10-38	20-25	1.20-1.40	4.00-14.11	0.05-0.10	0.0-2.9	0.5-2.0	.10	.37			
	38-54	15-23	1.30-1.50	14.11-42.34	0.04-0.08	0.0-2.9	0.0-1.0	.05	.37			
	54-64	---	---	---	---	---	---	---	---			
142: Zer-----	0-7	9-18	1.35-1.55	4.00-14.11	0.11-0.14	0.0-2.9	1.0-2.0	.24	.43	5	5	56
	7-38	9-18	1.45-1.60	14.11-42.34	0.08-0.13	0.0-2.9	0.5-1.0	.15	.37			
	38-60	5-16	1.50-1.65	14.11-42.34	0.03-0.08	0.0-2.9	0.0-0.5	.10	.28			
143: Zer-----	0-8	15-25	1.10-1.25	4.00-14.11	0.08-0.10	0.0-2.9	1.0-2.0	.24	.37	3	5	56
	8-20	9-18	1.30-1.50	14.11-42.34	0.04-0.07	0.0-2.9	0.0-0.5	.10	.37			
	20-60	10-16	1.35-1.50	4.00-42.34	0.04-0.09	0.0-2.9	0.0-0.5	.10	.43			



## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
144: Zer-----	0-3	16-20	1.35-1.45	4.00-14.11	0.08-0.11	0.0-2.9	1.0-2.0	.24	.37	3	7	38
	3-37	12-20	1.40-1.50	4.00-14.11	0.05-0.10	0.0-2.9	0.5-1.0	.10	.43			
	37-60	2-7	1.50-1.60	42.00-141.14	0.02-0.04	0.0-2.9	0.0-0.5	.05	.43			
145: Zer-----	0-7	16-20	1.35-1.45	4.00-14.11	0.08-0.11	0.0-2.9	1.0-2.0	.24	.37	3	7	38
	7-26	12-20	1.40-1.50	4.00-14.11	0.05-0.10	0.0-2.9	0.5-1.0	.10	.43			
	26-60	2-7	1.50-1.60	42.00-141.14	0.02-0.04	0.0-2.9	0.0-0.5	.05	.43			
146: Zer-----	0-2	9-18	1.35-1.55	4.00-14.11	0.11-0.14	0.0-2.9	1.0-2.0	.24	.43	5	5	56
	2-8	9-18	1.45-1.60	4.00-42.34	0.10-0.15	0.0-2.9	0.5-1.0	.24	.43			
	8-18	9-18	1.45-1.60	14.11-42.34	0.08-0.13	0.0-2.9	0.5-1.0	.15	.37			
	18-60	5-16	1.50-1.65	14.11-42.34	0.03-0.08	0.0-2.9	0.0-0.5	.10	.28			
Snowslide-----	0-10	12-18	1.35-1.45	4.00-14.11	0.11-0.14	0.0-2.9	0.5-1.0	.24	.37	5	8	0
	10-34	11-15	1.60-1.65	4.00-14.11	0.09-0.11	0.0-2.9	0.5-1.0	.17	.37			
	34-60	5-18	1.55-1.60	4.00-14.11	0.01-0.05	0.0-2.9	0.5-1.0	.05	.28			
147: Zer-----	0-3	9-18	1.35-1.55	4.00-14.11	0.11-0.14	0.0-2.9	1.0-2.0	.24	.43	3	5	56
	3-17	9-18	1.45-1.60	4.00-42.34	0.10-0.15	0.0-2.9	0.5-1.0	.24	.43			
	17-33	5-16	1.50-1.65	14.11-42.34	0.03-0.08	0.0-2.9	0.0-0.5	.10	.28			
	33-60	2-8	1.55-1.65	42.00-141.14	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28			
Whiteknob-----	0-3	10-18	1.50-1.55	4.00-14.11	0.11-0.14	0.0-2.9	1.0-2.0	.17	.32	2	7	38
	3-10	10-18	1.50-1.60	4.00-14.11	0.11-0.17	0.0-2.9	0.5-1.0	.28	.43			
	10-12	5-10	1.40-1.50	14.11-42.34	0.05-0.10	0.0-2.9	0.5-1.0	.10	.37			
	12-60	3-8	1.40-1.50	141.00-705.00	0.03-0.05	0.0-2.9	0.5-1.0	.05	.20			
148: Mooretown-----	0-3	12-20	1.10-1.20	4.00-14.11	0.15-0.18	0.0-2.9	2.0-4.0	.37	.43	4	5	56
	3-24	10-18	1.15-1.30	4.00-14.11	0.13-0.16	0.0-2.9	1.0-3.0	.32	.43			
	24-48	10-18	1.15-1.30	4.00-14.11	0.13-0.16	0.0-2.9	1.0-3.0	.32	.43			
	48-60	5-12	1.35-1.65	141.00-705.00	0.04-0.07	0.0-2.9	0.1-0.5	.05	.20			
Blackfoot-----	0-19	16-22	1.20-1.40	4.00-14.11	0.16-0.18	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	19-36	18-26	1.30-1.50	4.00-14.11	0.16-0.18	0.0-2.9	0.5-2.0	.37	.37			
	36-60	16-40	1.30-1.50	4.00-14.11	0.16-0.19	0.0-2.9	0.5-1.0	.32	.32			
Borah-----	0-4	8-15	1.15-1.25	4.00-14.11	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	2	8	0
	4-12	8-15	1.20-1.40	4.00-42.34	0.09-0.12	0.0-2.9	1.0-2.0	.17	.37			
	12-60	1-6	1.30-1.40	141.00-705.00	0.01-0.03	0.0-2.9	0.5-1.0	.10	.15			

## Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>g/cc</i>	<i>um/sec</i>	<i>In/in</i>	<i>Pct</i>	<i>Pct</i>					
149: Drage, cool-----	0-14	15-25	1.25-1.40	4.00-14.11	0.10-0.12	0.0-2.9	1.0-3.0	.20	.37	5	7	38
	14-30	28-35	1.25-1.50	1.41-4.23	0.08-0.12	3.0-5.9	0.5-1.0	.28	.37			
	30-60	10-35	1.25-1.50	4.00-14.11	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32			
150: Vitale-----	0-6	15-25	1.30-1.45	14.11-42.34	0.09-0.12	0.0-2.9	1.0-3.0	.20	.28	2	8	0
	6-15	18-35	1.40-1.50	1.41-4.23	0.05-0.07	3.0-5.9	1.0-3.0	.10	.37			
	15-23	18-35	1.40-1.55	4.00-14.11	0.05-0.07	0.0-2.9	0.0-1.0	.17	.37			
	23-33	---	---	---	---	---	---	---	---			
Blackspar-----	0-7	10-20	1.35-1.55	4.00-14.11	0.05-0.07	0.0-2.9	1.0-2.0	.24	.37	1	8	0
	7-17	20-30	1.40-1.60	4.00-14.11	0.04-0.06	0.0-2.9	0.5-1.0	.20	.43			
	17-27	---	---	---	---	---	---	---	---			

## Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
1: Arco-----	0-4	17-24	7.4-8.4	10-25	2.0-4.0	0
	4-26	15-21	7.4-8.4	15-30	2.0-4.0	0
	26-60	12-22	7.4-8.4	0-20	0.0-2.0	0
2: Atom-----	0-9	14-20	7.4-8.4	0-10	0.0-2.0	0-5
	9-33	11-23	8.5-10.0	15-40	4.0-8.0	13-30
	33-60	15-23	8.5-10.0	15-40	8.0-16.0	13-30
3: Atom-----	0-3	14-20	7.4-8.4	0-10	0.0-2.0	0-5
	3-10	18-22	7.4-8.4	5-15	0.0-2.0	0-5
	10-29	11-23	8.5-10.0	15-40	4.0-8.0	13-30
	29-60	15-23	8.5-10.0	15-40	8.0-16.0	13-30
4: Atom-----	0-3	14-20	7.4-8.4	0-10	0.0-2.0	0-5
	3-10	18-22	7.4-8.4	5-15	0.0-2.0	0-5
	10-29	11-23	8.5-10.0	15-40	4.0-8.0	13-30
	29-60	15-23	8.5-10.0	15-40	8.0-16.0	13-30
Splittop-----	0-3	14-18	6.6-7.8	0-5	0	0
	3-30	14-19	7.4-8.4	15-20	0.0-2.0	0
	30-34	12-18	7.9-9.0	15-20	0.0-2.0	0
	34-44	---	---	---	---	---
5: Bealand-----	0-5	8.1-21	7.4-8.4	15-35	0.0-2.0	0-5
	5-10	6.8-14	7.4-8.4	35-40	0.0-2.0	0-5
	10-39	2.9-11	7.4-8.4	40-50	0.0-2.0	0-5
	39-60	2.9-11	7.4-8.4	40-50	0.0-2.0	0-5
Zeale-----	0-14	13-19	7.4-8.4	15-45	0	0
	14-60	9.5-21	7.9-9.0	40-80	0.0-2.0	0-5
6: Blackfoot-----	0-7	13-19	7.4-8.4	0-15	0	0
	7-13	14-21	7.4-8.4	0-15	0	0
	13-26	20-25	7.4-8.4	20-35	0.0-4.0	1-5
	26-48	14-21	7.4-8.4	20-35	0.0-4.0	1-5
	48-60	20-25	7.4-8.4	0-15	0	0
7: Bluedome-----	0-3	6.7-13	7.4-9.0	20-30	0	0-8
	3-36	2.9-10	7.9-9.0	40-70	0.0-2.0	0-8
	36-40	---	---	---	---	---
	40-60	1.6-7.9	8.5-9.0	25-40	0.0-2.0	2-8
8: Bluedome-----	0-11	6.7-13	7.4-9.0	20-30	0	0-8
	11-28	2.9-10	7.9-9.0	40-70	0.0-2.0	0-8
	28-31	---	---	---	---	---
	31-60	1.6-7.9	8.5-9.0	25-40	0.0-2.0	2-8
McCaleb-----	0-12	11-16	7.9-8.4	20-30	0.0-2.0	0-5
	12-46	3.8-11	7.9-8.4	20-35	0.0-2.0	0-10
	46-60	3.8-11	7.9-9.0	35-60	2.0-8.0	5-15

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
9:						
Bockston-----	0-6	9.2-17	7.4-8.4	5-15	0.0-2.0	0-5
	6-14	9.2-19	7.4-8.4	5-20	0.0-2.0	0-5
	14-22	9.2-17	7.4-8.4	20-30	0.0-2.0	0-5
	22-48	8.5-14	7.4-8.4	20-30	0.0-2.0	0-5
	48-60	3.8-10	7.4-8.4	10-30	0.0-2.0	0-5
10:						
Breitenbach-----	0-4	11-17	7.4-7.8	0	0	0
	4-12	11-16	7.4-8.4	0	0	0
	12-41	8.5-13	7.4-8.4	5-10	0	0-2
	41-60	0.0-5.8	7.9-8.4	5-10	0	0-2
11:						
Breitenbach-----	0-3	5.4-10.0	7.4-7.8	0	0	0
	3-17	11-16	7.4-8.4	0	0	0
	17-30	8.5-13	7.4-8.4	5-10	0	0-2
	30-34	8.5-13	7.9-8.4	10-15	0	0-2
	34-60	0.0-5.8	7.9-8.4	5-10	0	0-2
Stan-----	0-7	2.6-8.4	7.4-8.4	2-5	0.0-2.0	0-5
	7-15	2.4-10.0	7.4-8.4	5-10	0.0-2.0	0-5
	15-24	5.0-11	7.4-8.4	15-25	0.0-2.0	0-5
	24-40	1.6-7.2	7.4-8.4	5-10	0.0-2.0	0-5
	40-60	1.6-5.8	7.4-8.4	2-5	0.0-2.0	0-5
12:						
Buist-----	0-5	12-17	6.6-7.8	0	0	0
	5-20	11-18	6.6-8.4	0	0.0-2.0	0
	20-33	5.2-12	7.4-9.0	15-40	0.0-4.0	0-5
	33-60	2.3-7.2	7.9-9.0	10-35	2.0-4.0	0-5
13:						
Bunting-----	0-10	12-19	6.6-7.8	0	0	0
	10-18	11-14	6.6-7.8	0-2	0	0
	18-22	8.5-11	7.4-7.8	0-2	0	0
	22-60	3.0-11	7.4-7.8	0-2	0	0
14:						
Coffee-----	0-7	12-19	7.4-8.4	5-10	4.0-8.0	0-5
	7-25	9.4-19	7.9-9.0	15-25	8.0-16.0	13-35
	25-48	9.8-22	7.9-9.0	15-30	8.0-16.0	13-35
	48-58	---	---	---	---	---
15:						
Coffee-----	0-7	12-19	7.4-8.4	5-10	4.0-8.0	0-5
	7-25	9.4-19	7.9-9.0	15-25	8.0-16.0	13-35
	25-48	9.8-22	7.9-9.0	15-30	8.0-16.0	13-35
	48-58	---	---	---	---	---
Nargon-----	0-5	13-18	7.4-8.4	3-15	0	0
	5-15	14-21	7.4-8.4	15-25	0.0-2.0	0-2
	15-22	11-17	7.9-8.4	15-30	0.0-2.0	0-2
	22-32	---	---	---	---	---
16:						
Coffee-----	0-7	12-19	7.4-8.4	5-10	4.0-8.0	0-5
	7-25	9.4-19	7.9-9.0	15-25	8.0-16.0	13-35
	25-48	9.8-22	7.9-9.0	15-30	8.0-16.0	13-35
	48-58	---	---	---	---	---

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
16:						
Nargon-----	0-5	13-18	7.4-8.4	3-15	0	0
	5-15	14-21	7.4-8.4	15-25	0.0-2.0	0-2
	15-22	11-17	7.9-8.4	15-30	0.0-2.0	0-2
	22-32	---	---	---	---	---
Atom-----	0-3	14-20	7.4-8.4	0-10	0.0-2.0	0-5
	3-10	18-22	7.4-8.4	5-15	0.0-2.0	0-5
	10-29	11-23	8.5-10.0	15-40	4.0-8.0	13-30
	29-60	15-23	8.5-10.0	15-40	8.0-16.0	13-30
17:						
Cronks-----	0-7	17-21	6.1-7.3	0	0	0
	7-19	26-37	6.6-7.8	0-5	0	0
	19-29	14-26	7.4-8.4	15-25	0.0-2.0	0
	29-60	14-26	7.4-8.4	0-10	0.0-2.0	0
Dacont-----	0-4	14-19	6.6-7.8	0-2	0	0
	4-10	17-22	7.4-8.4	0-2	0	0-8
	10-26	8.5-16	7.4-8.4	15-30	0.0-2.0	0-8
	26-40	7.2-10	7.4-8.4	15-35	0.0-2.0	0-8
	40-60	3.8-8.5	7.9-8.4	15-35	0.0-2.0	0-3
18:						
Crooked Creek-----	0-6	17-20	7.4-7.8	5-15	0	0
	6-20	18-22	7.4-8.4	5-15	0	0
	20-50	26-33	6.6-7.8	5-10	0	0
	50-60	14-19	6.6-7.8	5-10	0	0
19:						
Cryoborolls-----	0-4	12-24	6.6-7.8	0-20	0	0
	4-54	11-28	6.6-7.8	0-40	0	0
	54-60	5.0-22	6.6-8.4	0-40	0	0
Rubble land-----	0-60	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---
20:						
Darlington-----	0-14	13-19	6.6-7.3	0	0	0
	14-21	12-19	6.6-7.8	0	0	0
	21-33	12-19	6.6-7.8	0	0	0
	33-60	0.0-5.4	6.6-7.8	1-10	0	0-2
Lesbut-----	0-3	11-19	6.6-7.3	0	0	0
	3-13	11-19	6.6-7.3	0	0	0
	13-19	7.8-16	6.6-7.8	0-5	0	0
	19-60	0.0-3.8	7.4-7.8	1-5	0	0
21:						
Denied access-----	---	---	---	---	---	---
22:						
Deuce-----	0-2	12-18	7.4-8.4	0-10	0	0
	2-11	12-21	7.4-8.4	15-30	0	0
	11-19	13-22	7.9-9.0	20-35	0.0-2.0	0
	19-29	---	---	---	---	---
Nargon-----	0-5	14-18	7.4-8.4	3-15	0	0
	5-15	14-21	7.4-8.4	15-25	0.0-2.0	0-2
	15-22	11-17	7.9-8.4	15-30	0.0-2.0	0-2
	22-32	---	---	---	---	---

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
22: Lava flows-----	0-60	---	---	---	---	---
23: Deuce-----	0-3	12-18	7.4-8.4	0-10	0	0
	3-12	12-21	7.4-8.4	15-30	0	0
	12-19	13-22	7.9-9.0	20-35	0.0-2.0	0
	19-29	---	---	---	---	---
Nargon-----	0-2	14-18	7.4-8.4	3-15	0	0
	2-7	14-21	7.4-8.4	15-25	0.0-2.0	0-2
	7-21	11-17	7.9-8.4	15-30	0.0-2.0	0-2
	21-31	---	---	---	---	---
Lava flows-----	0-60	---	---	---	---	---
24: Dickeypeak-----	0-2	21-23	7.9-9.0	20-40	8.0-16.0	15-25
	2-10	17-23	7.9-8.4	20-50	0.0-2.0	3-10
	10-50	10-17	7.9-8.4	20-50	0.0-2.0	3-5
	50-70	7.0-13	7.9-8.4	0-20	0.0-2.0	3-5
Bigrant-----	0-8	17-24	7.4-8.4	15-30	4.0-8.0	5-10
	8-23	17-24	7.4-8.4	15-30	4.0-8.0	5-10
	23-35	14-24	7.4-8.4	20-35	0.0-4.0	1-5
	35-60	26-32	7.4-8.4	20-35	0.0-4.0	1-5
25: Donkehill-----	0-9	12-18	7.4-7.8	0	0	0
	9-16	21-27	7.4-7.8	0-10	0	0
	16-19	21-27	7.4-7.8	0-10	0	0
	19-29	---	---	---	---	---
26: Dredge-----	0-12	16-22	7.9-8.4	0	0	0
	12-46	14-21	7.9-8.4	0	0	0
	46-60	14-19	7.9-8.4	0	0.0-2.0	0-2
27: Elbow-----	0-5	12-18	7.9-8.4	5-10	0	0-1
	5-17	11-17	7.9-9.0	10-20	0.0-2.0	0-1
	17-23	8.5-13	7.9-9.0	15-20	0.0-2.0	0-1
	23-31	---	---	---	---	---
	31-35	2.3-5.8	8.5-9.0	15-20	0.0-2.0	0-1
	35-60	0.0-3.8	8.5-9.0	10-20	0.0-2.0	0-1
28: Fallert-----	0-2	9.4-19	7.9-9.0	20-55	0	0
	2-8	7.9-13	7.9-9.0	20-40	0	0
	8-19	6.8-11	7.9-9.0	40-75	2.0-8.0	0
	19-60	1.6-6.8	7.9-9.0	40-70	2.0-8.0	0
29: Fallert, dry-----	0-3	9.4-19	7.9-9.0	20-55	0	0
	3-12	7.9-13	7.9-9.0	20-40	0	0
	12-19	6.8-11	7.9-9.0	40-75	2.0-8.0	0
	19-60	1.6-6.8	7.9-9.0	40-70	2.0-8.0	0
30: Fandow-----	0-6	9.4-17	7.4-8.4	10-30	0.0-2.0	0
	6-19	7.9-14	7.9-8.4	40-65	0.0-2.0	0
	19-20	---	---	---	---	---
	20-60	1.1-5.6	7.9-9.6	30-50	0.0-2.0	2-8

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
31: Fulwider, high precipitation-----	0-7	6.2-12	7.4-9.0	5-25	0	0-5
	7-12	3.0-12	7.4-9.0	20-40	2.0-8.0	3-10
	12-17	---	---	---	---	---
	17-60	4.0-8.8	7.4-9.0	25-40	2.0-8.0	3-10
Fulwider, low precipitation-----	0-3	6.2-12	7.4-9.0	5-25	0	0-5
	3-14	3.0-12	7.4-9.0	20-40	2.0-8.0	3-10
	14-17	---	---	---	---	---
	17-60	4.0-8.8	7.4-9.0	25-40	2.0-8.0	3-10
Fulwider-----	0-2	6.2-9.3	7.4-9.0	5-25	0	0-5
	2-6	3.0-12	7.4-9.0	20-40	0	3-10
	6-10	3.0-12	7.4-9.0	20-40	2.0-8.0	3-10
	10-15	---	---	---	---	---
	15-60	0.0-11	7.4-9.0	20-40	2.0-8.0	3-10
32: Goosebury, high precipitation-----	0-5	13-19	7.4-7.8	0-15	0.0-2.0	0
	5-11	8.9-17	7.4-8.4	15-35	0.0-2.0	0
	11-41	8.3-15	7.4-8.4	15-40	0.0-2.0	0
	41-60	4.1-10	7.4-8.4	15-35	0.0-2.0	0
33: Goosebury-----	0-5	13-19	7.4-7.8	0-15	0.0-2.0	0
	5-11	8.9-17	7.4-8.4	15-35	0.0-2.0	0
	11-41	8.3-15	7.4-8.4	15-40	0.0-2.0	0
	41-60	4.1-10	7.4-8.4	15-35	0.0-2.0	0
34: Goosebury, low precipitation-----	0-4	9.7-15	7.4-7.8	0-15	0.0-2.0	0
	4-12	8.2-15	7.4-8.4	15-35	0.0-2.0	0
	12-60	7.6-13	7.4-8.4	15-40	0.0-2.0	0
Goosebury, high precipitation-----	0-8	9.7-15	7.4-7.8	0-15	0.0-2.0	0
	8-24	8.2-15	7.4-8.4	15-35	0.0-2.0	0
	24-44	7.6-13	7.4-8.4	15-40	0.0-2.0	0
	44-60	4.0-9.4	7.4-8.4	15-35	0.0-2.0	0
35: Hagenbarth-----	0-9	23-28	6.6-7.3	0	0	0
	9-20	16-23	6.6-7.3	0	0	0
	20-41	21-28	6.6-7.3	0	0	0
	41-60	21-28	6.6-7.3	0	0	0
Howcan-----	0-4	10.0-23	6.6-7.8	0	0	0
	4-10	9.2-21	6.6-7.8	0	0	0
	10-38	15-21	6.6-7.8	0	0	0
	38-54	10-16	6.6-7.8	0	0	0
	54-64	---	---	---	---	---
Jonda-----	0-4	10-18	6.6-7.8	0	0	0
	4-21	16-19	7.4-7.8	0-10	0	0-2
	21-60	6.0-10	7.9-8.4	5-20	0.0-2.0	0-2

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
36:						
Hal-----	0-6	5.5-13	6.1-7.3	0	0	0
	6-12	3.0-9.8	6.1-7.3	0	0	0
	12-24	3.2-9.8	6.6-7.3	0	0	0
	24-40	3.2-9.8	6.6-7.3	0	0	0
	40-60	1.0-7.1	6.6-7.3	0	0	0
Moonville-----	0-7	15-44	6.6-7.8	0	0	0
	7-31	12-23	6.6-7.8	0	0	0
	31-60	9.9-19	7.9-8.4	15-35	0.0-2.0	0
37:						
Hondoho-----	0-6	12-21	7.4-8.4	0-5	0	0
	6-10	12-21	7.4-8.4	0-5	0	0
	10-60	12-18	7.9-8.4	15-40	0.0-2.0	0-5
38:						
Howcan-----	0-4	10.0-23	6.6-7.8	0	0	0
	4-10	9.2-21	6.6-7.8	0	0	0
	10-38	15-21	6.6-7.8	0	0	0
	38-54	10-16	6.6-7.8	0	0	0
	54-64	---	---	---	---	---
Hutchley-----	0-4	13-21	6.6-7.8	0	0	0
	4-11	19-27	6.6-7.8	0	0	0
	11-21	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---
39:						
Howcan-----	0-4	10.0-23	6.6-7.8	0	0	0
	4-10	9.2-21	6.6-7.8	0	0	0
	10-38	15-21	6.6-7.8	0	0	0
	38-54	10-16	6.6-7.8	0	0	0
	54-64	---	---	---	---	---
Zeebar-----	0-3	16-22	6.6-7.8	0	0	0
	3-19	15-22	6.6-7.8	0	0	0
	19-41	15-22	6.6-7.8	0	0	0
	41-60	10-17	6.6-7.8	0	0	0
Hutchley-----	0-4	13-21	6.6-7.8	0	0	0
	4-11	19-27	6.6-7.8	0	0	0
	11-21	---	---	---	---	---
40:						
Huddle-----	0-2	6.5-14	7.4-7.8	0	0	0-3
	2-7	6.5-14	7.4-7.8	0	0	0-3
	7-19	5.7-12	7.4-7.8	0	0	0-3
	19-39	5.7-13	7.4-8.4	15-35	0	0-8
	39-50	8.1-18	7.4-8.4	15-35	0	0-8
	50-60	---	---	---	---	---
Moonville-----	0-7	15-44	6.6-7.8	0	0	0
	7-31	12-23	6.6-7.8	0	0	0
	31-60	9.9-19	7.9-8.4	15-35	0.0-2.0	0
41:						
Ike-----	0-2	6.8-21	7.4-8.4	25-35	0.0-2.0	0
	2-7	2.9-14	7.9-9.0	40-60	0.0-2.0	0
	7-18	2.9-14	7.9-9.0	40-60	0.0-2.0	0
	18-28	---	---	---	---	---



## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
41:						
Rock outcrop-----	0-60	---	---	---	---	---
Jimbee-----	0-7	9.4-19	7.9-8.4	25-55	0	0
	7-17	7.9-19	7.9-9.0	40-55	0.0-2.0	0
	17-27	---	---	---	---	---
42:						
Ike-----	0-2	6.8-21	7.4-8.4	25-35	0.0-2.0	0
	2-7	2.9-14	7.9-9.0	40-60	0.0-2.0	0
	7-18	2.9-14	7.9-9.0	40-60	0.0-2.0	0
	18-28	---	---	---	---	---
Simeroi-----	0-4	8.1-17	7.4-8.4	5-10	0.0-2.0	0-5
	4-26	8.1-17	7.4-8.4	30-70	0.0-2.0	0-5
	26-60	6.8-11	7.9-9.0	40-70	0.0-2.0	0-5
Rock outcrop-----	0-60	---	---	---	---	---
43:						
Inel-----	0-2	6.8-13	7.4-8.4	20-30	0.0-2.0	0
	2-16	2.9-11	7.9-9.0	30-40	0.0-2.0	0-5
	16-19	2.9-11	7.9-9.0	40-50	0.0-2.0	0-5
	19-29	---	---	---	---	---
Matheson-----	0-6	6.2-12	7.4-8.4	1-10	0	0
	6-12	6.0-12	7.9-8.4	5-15	0	0
	12-35	6.0-12	7.9-8.4	15-25	0	0
	35-45	6.0-12	7.9-8.4	15-25	0.0-2.0	0-5
	45-55	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---
44:						
Inel-----	0-3	6.8-13	7.4-8.4	20-30	0.0-2.0	0
	3-9	2.9-11	7.9-9.0	30-40	0.0-2.0	0-5
	9-19	2.9-11	7.9-9.0	40-50	0.0-2.0	0-5
	19-29	---	---	---	---	---
Slide-----	0-3	6.8-13	7.4-8.4	20-40	0	0
	3-10	6.8-13	7.9-8.4	20-40	0	0
	10-60	2.2-10	7.9-8.4	40-70	0	0
Rock outcrop-----	0-60	---	---	---	---	---
45:						
Jimbee-----	0-7	9.4-19	7.9-8.4	25-55	0	0
	7-17	7.9-19	7.9-9.0	40-55	0.0-2.0	0
	17-27	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---
Ike-----	0-2	6.8-21	7.4-8.4	25-35	0.0-2.0	0
	2-7	2.9-14	7.9-9.0	40-60	0.0-2.0	0
	7-18	2.9-14	7.9-9.0	40-60	0.0-2.0	0
	18-28	---	---	---	---	---
46:						
Jimbee-----	0-5	9.4-19	7.9-8.4	25-55	0	0
	5-17	7.9-19	7.9-9.0	40-55	0.0-2.0	0
	17-27	---	---	---	---	---

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
46:						
Skibo-----	0-4	9.6-19	7.4-7.8	0-10	0.0-2.0	0-5
	4-31	10-19	7.4-8.4	40-80	0.0-2.0	0-5
	31-60	8.4-16	7.9-8.4	40-80	0.0-2.0	0-5
Ike-----	0-2	6.8-21	7.4-8.4	25-35	0.0-2.0	0
	2-7	2.9-14	7.9-9.0	40-60	0.0-2.0	0
	7-18	2.9-14	7.9-9.0	40-60	0.0-2.0	0
	18-28	---	---	---	---	---
47:						
Justesen-----	0-10	11-17	6.6-7.3	0	0	0
	10-25	16-26	6.6-8.4	0	0	0
	25-60	10-14	7.9-8.4	15-35	0.0-2.0	0
Drage-----	0-6	15-22	6.6-7.8	0	0	0
	6-15	20-27	6.6-7.8	0	0	0
	15-30	20-25	6.6-7.8	0	0	0
	30-43	10-23	7.4-8.4	5-20	0.0-2.0	0
	43-60	10-23	7.4-8.4	15-25	0.0-2.0	0
48:						
Ketchum-----	0-1	---	4.5-5.5	0	0	0
	1-5	7.3-14	6.1-7.3	0	0	0
	5-18	7.3-14	6.1-7.3	0	0	0
	18-50	6.7-13	6.1-7.3	0-1	0	0
	50-64	2.5-9.2	6.6-7.8	1-5	0	0
Povey-----	0-6	10.0-18	6.6-7.3	0	0	0
	6-12	9.2-17	6.6-7.3	0	0	0
	12-55	7.2-14	6.6-7.8	0	0	0
	55-65	---	---	---	---	---
49:						
Kimama-----	0-8	11-17	6.6-7.8	0	0	0
	8-34	12-17	6.6-7.8	0	0	0
	34-60	12-17	7.4-8.4	15-25	0.0-2.0	0-5
50:						
Klug-----	0-13	12-18	6.6-7.3	0	0	0
	13-24	11-17	6.6-7.8	0	0	0
	24-37	9.9-16	6.6-7.8	0	0	0
	37-60	9.9-16	6.6-7.8	0	0	0
51:						
Klug-----	0-13	12-18	6.6-7.3	0	0	0
	13-24	11-17	6.6-7.8	0	0	0
	24-37	9.9-16	6.6-7.8	0	0	0
	37-60	9.9-16	6.6-7.8	0	0	0
Parvis-----	0-8	16-23	6.1-7.3	0	0	0
	8-28	15-22	6.1-7.3	0	0	0
	28-43	19-22	6.6-7.8	0	0	0
	43-60	19-22	6.6-7.8	0	0	0
52:						
Lag-----	0-1	---	4.5-5.5	0	0	0
	1-14	13-20	6.1-7.3	0	0	0
	14-25	8.5-17	6.1-7.3	0	0	0
	25-60	7.2-14	6.1-7.3	0	0	0

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
53:						
Lavacreek-----	0-10	10.0-21	6.1-7.3	0	0	0
	10-19	10.0-19	6.1-7.3	0	0	0
	19-36	8.2-17	5.6-7.3	0	0	0
	36-59	6.5-13	5.6-7.3	0	0	0
	59-69	---	---	---	---	---
Dollarhide-----	0-8	7.8-17	6.6-7.8	0	0	0
	8-13	7.2-15	6.6-7.8	0	0	0
	13-17	---	---	---	---	---
	17-27	---	---	---	---	---
54:						
Lavacreek-----	0-10	10.0-21	6.1-7.3	0	0	0
	10-19	10.0-19	6.1-7.3	0	0	0
	19-36	8.2-17	5.6-7.3	0	0	0
	36-59	6.5-13	5.6-7.3	0	0	0
	59-69	---	---	---	---	---
Dollarhide-----	0-8	7.8-17	6.6-7.8	0	0	0
	8-13	7.2-15	6.6-7.8	0	0	0
	13-17	---	---	---	---	---
	17-27	---	---	---	---	---
Grassycone-----	0-1	---	4.5-5.5	0	0	0
	1-3	7.2-23	5.6-7.3	0	0	0
	3-9	5.6-19	5.6-7.3	0	0	0
	9-57	4.1-15	5.6-7.3	0-5	0	0
	57-65	9.5-17	6.6-7.3	2-5	0	0
55:						
Lavacreek-----	0-10	10.0-21	6.1-7.3	0	0	0
	10-19	10.0-19	6.1-7.3	0	0	0
	19-36	8.2-17	5.6-7.3	0	0	0
	36-59	6.5-13	5.6-7.3	0	0	0
	59-69	---	---	---	---	---
Vitale-----	0-3	11-21	6.1-7.3	0	0	0
	3-10	12-17	6.6-7.8	0	0	0
	10-24	20-28	6.6-7.8	0	0	0
	24-33	12-23	6.6-7.8	0	0	0
	33-43	---	---	---	---	---
56:						
Lava flows-----	0-60	---	---	---	---	---
57:						
Lava flows-----	0-60	---	---	---	---	---
Cinderhurst-----	0-3	11-20	6.1-7.3	0	0	0
	3-8	11-19	6.1-7.3	0	0	0
	8-18	---	---	---	---	---
58:						
Lava flows-----	0-60	---	---	---	---	---
Pingree-----	0-2	11-15	7.4-7.8	0	0.0-2.0	0
	2-7	11-15	7.4-7.8	0	0.0-2.0	0
	7-9	11-15	7.4-8.4	0	0.0-2.0	0
	9-19	---	---	---	---	---

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
59:						
Leatherman-----	0-3	9.4-17	7.4-8.4	10-25	0.0-2.0	0-5
	3-8	7.9-17	7.9-9.0	40-60	2.0-8.0	5-15
	8-12	7.9-17	7.9-9.0	40-60	2.0-8.0	5-15
	12-17	---	---	---	---	---
	17-60	1.1-6.8	7.9-9.0	40-50	2.0-8.0	5-15
Adek, dry-----	0-7	6.7-16	7.4-8.4	15-25	0.0-2.0	0-5
	7-41	7.9-23	7.9-9.0	40-60	0.0-4.0	0-7
	41-60	3.4-11	7.9-9.0	40-60	0.0-4.0	0-7
Adek-----	0-2	6.7-16	7.4-8.4	15-25	0.0-2.0	0-5
	2-17	9.4-27	7.9-9.0	30-60	0.0-4.0	0-7
	17-60	7.9-23	7.9-9.0	40-60	0.0-4.0	0-7
60:						
Leatherman-----	0-3	9.4-17	7.4-8.4	10-25	0.0-2.0	0-5
	3-8	7.9-17	7.9-9.0	40-60	2.0-8.0	5-15
	8-12	7.9-17	7.9-9.0	40-60	2.0-8.0	5-15
	12-17	---	---	---	---	---
	17-60	1.1-6.8	7.9-9.0	40-50	2.0-8.0	5-15
Bluedome-----	0-3	6.7-13	7.4-9.0	20-30	0	0-8
	3-22	2.9-10	7.9-9.0	40-70	0.0-2.0	0-8
	22-30	---	---	---	---	---
	30-60	1.6-7.9	8.5-9.0	25-40	0.0-2.0	2-8
61:						
Malm-----	0-10	9.7-12	7.4-9.0	0-10	0.0-2.0	0-5
	10-32	6.0-12	7.4-9.0	10-30	0.0-2.0	0-5
	32-38	5.2-11	7.4-9.0	15-30	0.0-2.0	0-5
	38-48	---	---	---	---	---
Bondfarm-----	0-2	4.6-8.3	7.4-7.8	0-5	0	0
	2-11	4.0-8.1	7.4-8.4	15-20	0	0
	11-21	---	---	---	---	---
Matheson-----	0-6	6.2-12	7.4-8.4	1-10	0	0
	6-12	6.0-12	7.9-8.4	5-15	0	0
	12-35	6.0-12	7.9-8.4	15-25	0	0
	35-45	6.0-12	7.9-8.4	15-25	0.0-2.0	0-5
	45-55	---	---	---	---	---
62:						
Matheson-----	0-6	6.2-12	7.4-8.4	1-10	0	0
	6-12	6.0-12	7.9-8.4	5-15	0	0
	12-35	6.0-12	7.9-8.4	15-25	0	0
	35-45	6.0-12	7.9-8.4	15-25	0.0-2.0	0-5
	45-55	---	---	---	---	---
Grassy Butte-----	0-7	4.0-7.8	6.6-8.4	0-15	0	0-8
	7-60	1.9-7.8	6.6-8.4	15-40	0.0-2.0	0-8
63:						
McCain-----	0-4	8.3-14	7.4-7.8	0	0.0-2.0	0
	4-7	8.1-14	7.4-7.8	0	0.0-2.0	0
	7-15	17-21	7.4-8.4	0-10	0.0-2.0	0
	15-23	7.0-16	7.9-9.0	15-30	0.0-2.0	0-5
	23-28	11-18	7.9-9.0	15-40	0.0-2.0	0-5
	28-38	---	---	---	---	---

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
63:						
Thornock-----	0-5	8.3-14	6.6-7.8	0-5	0.0-2.0	0
	5-10	15-18	7.4-7.8	5-15	0.0-2.0	0
	10-16	5.8-13	7.4-9.0	15-25	0.0-2.0	0-10
	16-26	---	---	---	---	---
64:						
McCarey-----	0-12	9.2-18	6.6-7.8	0	0	0
	12-18	16-26	7.4-8.4	0	0.0-2.0	0
	18-33	10-17	7.4-9.0	15-30	0.0-2.0	0-5
	33-43	---	---	---	---	---
Beartrap-----	0-16	7.8-12	7.4-7.8	5-15	0	0
	16-52	9.9-15	7.4-8.4	15-40	0.0-2.0	0-5
	52-62	---	---	---	---	---
65:						
McCarey-----	0-12	9.2-18	6.6-7.8	0	0	0
	12-18	16-26	7.4-8.4	0	0.0-2.0	0
	18-33	10-17	7.4-9.0	15-30	0.0-2.0	0-5
	33-43	---	---	---	---	---
Beartrap-----	0-16	7.8-12	7.4-7.8	5-15	0	0
	16-52	9.9-15	7.4-8.4	15-40	0.0-2.0	0-5
	52-62	---	---	---	---	---
66:						
McCarey-----	0-12	9.2-18	6.6-7.8	0	0	0
	12-18	16-26	7.4-8.4	0	0.0-2.0	0
	18-33	10-17	7.4-9.0	15-30	0.0-2.0	0-5
	33-43	---	---	---	---	---
Beartrap-----	0-16	7.8-12	7.4-7.8	5-15	0	0
	16-52	9.9-15	7.4-8.4	15-40	0.0-2.0	0-5
	52-62	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---
67:						
McCarey-----	0-11	9.2-18	6.6-7.8	0	0	0
	11-23	16-26	7.4-8.4	0	0.0-2.0	0
	23-28	10-17	7.4-9.0	15-30	0.0-2.0	0-5
	28-38	---	---	---	---	---
Molyneux-----	0-13	9.2-18	6.1-7.3	0	0	0
	13-25	21-28	6.6-7.3	0	0	0
	25-62	12-17	6.6-7.8	0	0	0
Lava flows-----	0-60	---	---	---	---	---
68:						
McCarey-----	0-12	9.2-18	6.6-7.8	0	0	0
	12-18	16-26	7.4-8.4	0	0.0-2.0	0
	18-33	10-17	7.4-9.0	15-30	0.0-2.0	0-5
	33-43	---	---	---	---	---
Splittop-----	0-4	14-18	6.6-7.8	0-5	0	0
	4-30	14-19	7.9-9.0	15-30	0.0-2.0	0
	30-40	---	---	---	---	---
Lava flows-----	0-60	---	---	---	---	---

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
69:						
McCarey-----	0-12	9.2-18	6.6-7.8	0	0	0
	12-18	16-26	7.4-8.4	0	0.0-2.0	0
	18-33	10-17	7.4-9.0	15-30	0.0-2.0	0-5
	33-43	---	---	---	---	---
Vickton-----	0-8	15-22	7.4-7.8	0	0	0
	8-14	19-25	7.4-7.8	0	0	0
	14-58	14-22	7.4-8.4	15-30	0	0
	58-68	---	---	---	---	---
Lava flows-----	0-60	---	---	---	---	---
70:						
McClenden-----	0-5	6.2-12	7.4-8.4	0	0	0
	5-11	9.3-13	7.9-9.0	0	2.0-8.0	5-10
	11-19	8.1-14	7.9-8.4	5-10	0.0-2.0	0-5
	19-51	5.2-13	7.9-9.0	5-15	2.0-4.0	2-10
	51-53	---	---	---	---	---
	53-63	---	---	---	---	---
Thornock-----	0-5	8.3-14	6.6-7.8	0-5	0.0-2.0	0
	5-10	15-18	7.4-7.8	5-15	0.0-2.0	0
	10-16	5.8-13	7.4-9.0	15-25	0.0-2.0	0-10
	16-26	---	---	---	---	---
71:						
Medicine-----	0-4	12-19	7.4-8.4	5-10	0	0
	4-12	12-19	7.4-8.4	5-10	0	0
	12-25	11-18	7.4-8.4	5-30	0.0-4.0	0
	25-60	2.6-8.1	7.9-9.0	15-20	0.0-4.0	0
Whiteknob-----	0-5	8.3-14	7.4-9.0	10-20	0.0-2.0	0-5
	5-10	8.1-14	7.4-9.0	10-20	0.0-2.0	0-5
	10-18	4.6-8.3	7.9-9.0	15-30	0.0-2.0	0-5
	18-60	3.0-6.9	7.9-9.0	15-35	0.0-2.0	0
72:						
Menan-----	0-7	16-18	7.4-8.4	0	0	0
	7-33	17-22	7.4-8.4	0	0	0
	33-38	15-20	7.9-8.4	10-15	0.0-2.0	0-1
	38-60	9.8-20	7.9-9.0	15-25	0.0-2.0	0-1
73:						
Mogg-----	0-2	12-19	7.4-8.4	0-10	0	0
	2-6	12-19	7.4-8.4	0-10	0	0
	6-13	11-18	7.4-8.4	15-25	0.0-4.0	0
	13-23	---	---	---	---	---
Shagel-----	0-3	11-14	7.4-8.4	0-5	0	0
	3-7	11-14	7.4-8.4	2-5	0	0
	7-10	6.2-14	7.9-8.4	5-10	0	0
	10-16	4.5-10	7.9-9.0	15-35	0.0-2.0	0
	16-26	---	---	---	---	---
74:						
Mooretown-----	0-3	12-19	6.6-7.8	0-10	0	0
	3-24	9.2-17	7.4-8.4	0-15	0.0-2.0	0
	24-48	9.2-17	7.4-8.4	0-15	0.0-2.0	0
	48-60	3.8-8.5	6.6-7.8	0	0	0

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
74: Borah-----	0-3	7.8-14	7.4-8.4	1-10	0.0-2.0	0-5
	3-9	7.8-14	7.4-8.4	5-20	0.0-2.0	0
	9-60	1.4-6.2	7.4-8.4	0-10	0.0-2.0	0
75: Mooretown, drained---	0-3	12-19	6.6-7.8	0-10	0	0
	3-24	9.2-17	7.4-8.4	0-15	0.0-2.0	0
	24-48	9.2-17	7.4-8.4	0-15	0.0-2.0	0
	48-60	3.8-8.5	6.6-7.8	0	0	0
Borco-----	0-2	7.8-14	7.4-8.4	0-10	0.0-2.0	0-5
	2-10	7.8-14	7.4-8.4	3-10	0.0-2.0	0-5
	10-26	0.8-4.5	7.4-8.4	0-5	0.0-2.0	0-5
	26-60	0.8-4.5	7.4-8.4	0-5	0.0-2.0	0-5
76: Nargon-----	0-5	13-18	7.4-8.4	3-15	0	0
	5-15	14-21	7.4-8.4	15-25	0.0-2.0	0-2
	15-22	11-17	7.9-8.4	15-40	0.0-2.0	0-2
	22-32	---	---	---	---	---
Atom-----	0-7	14-20	7.4-8.4	0-10	0.0-2.0	0-5
	7-15	13-24	8.5-10.0	15-40	4.0-8.0	13-30
	15-60	12-20	8.5-10.0	15-40	8.0-16.0	13-30
Techicknot-----	0-4	16-21	7.4-7.8	0	0	0
	4-29	19-26	7.4-8.4	0	0	0
	29-48	16-24	7.4-8.4	15-25	0.0-2.0	0
	48-60	14-20	7.9-9.0	15-30	0.0-2.0	0-5
77: Nargon-----	0-2	14-18	7.4-8.4	3-15	0	0
	2-7	14-21	7.4-8.4	15-25	0.0-2.0	0-2
	7-21	11-17	7.9-8.4	15-30	0.0-2.0	0-2
	21-31	---	---	---	---	---
Deuce-----	0-2	12-18	7.4-8.4	0-10	0	0
	2-11	12-21	7.4-8.4	15-30	0	0
	11-19	13-22	7.9-9.0	20-35	0.0-2.0	0
	19-29	---	---	---	---	---
Lava flows-----	0-60	---	---	---	---	---
78: Nitchly-----	0-10	13-21	7.4-8.4	10-35	0.0-2.0	0
	10-24	11-23	7.4-8.4	35-55	0.0-2.0	0
	24-60	4.7-19	7.4-9.0	40-90	0.0-2.0	0
79: Nurkey-----	0-7	13-21	6.6-7.8	0	0	0
	7-15	18-24	7.4-8.4	0-20	0	0
	15-60	9.9-20	7.4-8.4	20-30	0.0-2.0	0
Dacont-----	0-2	14-19	6.6-7.8	0-2	0	0
	2-8	17-22	7.4-8.4	0-2	0	0-8
	8-12	8.5-16	7.4-8.4	15-30	0.0-2.0	0-8
	12-24	7.2-10	7.4-8.4	15-35	0.0-2.0	0-8
	24-35	3.8-8.5	7.9-8.4	15-35	0.0-2.0	0-3
	35-60	1.6-5.8	7.9-8.4	10-30	0.0-2.0	0-3

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
80:						
Nurkey-----	0-7	13-21	6.6-7.8	0	0	0
	7-15	18-24	7.4-8.4	0-20	0	0
	15-60	9.9-20	7.4-8.4	20-30	0.0-2.0	0
Dacont-----	0-2	14-19	6.6-7.8	0-2	0	0
	2-8	17-22	7.4-8.4	0-2	0	0-8
	8-12	8.5-16	7.4-8.4	15-30	0.0-2.0	0-8
	12-24	7.2-10	7.4-8.4	15-35	0.0-2.0	0-8
	24-35	3.8-8.5	7.9-8.4	15-35	0.0-2.0	0-3
	35-60	1.6-5.8	7.9-8.4	10-30	0.0-2.0	0-3
81:						
Nurkey-----	0-3	13-21	6.6-7.8	0	0	0
	3-10	15-22	7.4-8.4	0	0	0
	10-20	18-24	7.4-8.4	0-20	0	0
	20-40	9.9-20	7.4-8.4	20-30	0	0
	40-60	5.0-16	7.4-8.4	10-20	0.0-2.0	0
Nurkey, low precipitation-----	0-10	13-21	6.6-7.8	0	0	0
	10-17	18-24	7.4-8.4	0-20	0	0
	17-35	9.9-20	7.4-8.4	20-30	0	0
	35-60	5.0-16	7.4-8.4	10-20	0.0-2.0	0
82:						
Calcids-----	0-4	9.7-15	6.6-7.8	0	0.0-2.0	0
	4-12	9.4-15	6.6-7.8	0-5	0.0-2.0	0
	12-25	7.0-13	7.4-8.4	5-15	0.0-2.0	0
	25-60	7.0-13	6.3-8.4	0-15	0.0-2.0	0
Rubble land-----	0-60	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---
83:						
Packmo-----	0-3	9.7-16	6.6-7.8	0	0	0
	3-12	9.4-16	6.6-7.8	0	0	0
	12-42	7.0-13	7.4-8.4	5-15	0.0-2.0	0
	42-60	4.0-8.1	7.4-9.0	5-15	0.0-2.0	0
Snowslide-----	0-5	9.4-14	7.4-8.4	0-25	0.0-4.0	0-2
	5-24	8.8-12	7.9-8.4	15-35	4.0-8.0	5-10
	24-60	4.6-14	7.4-8.4	15-35	8.0-16.0	5-10
84:						
Paint-----	0-10	9.4-16	7.4-9.0	25-65	0.0-2.0	0-5
	10-18	9.4-16	7.4-9.0	40-70	2.0-8.0	5-15
	18-19	---	---	---	---	---
	19-28	2.1-16	7.4-9.0	40-70	2.0-8.0	5-15
	28-60	1.6-6.8	7.9-9.0	35-70	2.0-8.0	5-15
Fallert-----	0-3	9.4-19	7.9-9.0	20-55	0	0
	3-11	7.9-13	7.9-9.0	20-40	0	0
	11-27	6.8-11	7.9-9.0	40-75	2.0-8.0	0
	27-60	1.6-6.8	7.9-9.0	40-70	2.0-8.0	0
85:						
Paint-----	0-8	9.4-16	7.4-9.0	25-65	0.0-2.0	0-5
	8-15	9.4-16	7.4-9.0	40-70	2.0-8.0	5-15
	15-20	---	---	---	---	---
	20-28	2.1-16	7.4-9.0	40-70	2.0-8.0	5-15
	28-60	1.6-6.8	7.9-9.0	35-70	2.0-8.0	5-15



## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
85: Whitecloud-----	0-10	7.6-16	7.4-8.4	10-20	0	0
	10-15	2.2-9.5	7.4-8.4	55-80	0.0-2.0	0
	15-60	1.1-5.6	7.9-8.4	55-80	0.0-2.0	0
86: Pancheri-----	0-4	6.9-13	7.4-8.4	1-5	0.0-2.0	0-8
	4-9	4.6-14	7.9-9.0	10-30	0.0-2.0	0-13
	9-29	4.0-13	7.4-9.0	15-25	2.0-8.0	0-13
	29-60	4.0-13	7.4-9.0	15-25	2.0-8.0	0-13
87: Pancheri-----	0-4	6.9-13	7.4-8.4	1-5	0.0-2.0	0-8
	4-9	4.6-14	7.9-9.0	10-30	0.0-2.0	0-13
	9-29	4.0-13	7.4-9.0	15-25	2.0-8.0	0-13
	29-60	4.0-13	7.4-9.0	15-25	2.0-8.0	0-13
Polatis-----	0-3	8.3-14	7.4-8.4	5-15	0.0-2.0	0-5
	3-26	7.0-13	7.9-9.0	15-30	2.0-4.0	0-5
	26-39	7.0-13	7.9-9.0	15-30	2.0-4.0	0-5
	39-49	---	---	---	---	---
88: Playas-----	0-60	---	---	---	---	---
89: Polatis-----	0-5	4.7-14	7.4-8.4	5-15	0.0-2.0	0-5
	5-34	7.0-13	7.9-9.0	15-30	2.0-4.0	0-5
	34-44	---	---	---	---	---
90: Portino-----	0-4	6.7-14	7.4-8.4	5-15	0.0-2.0	0
	4-29	5.8-13	7.9-9.0	15-30	0.0-2.0	2-10
	29-39	---	---	---	---	---
Thornock-----	0-5	8.3-14	6.6-7.8	0-5	0.0-2.0	0
	5-10	15-18	7.4-7.8	5-15	0.0-2.0	0
	10-16	5.8-13	7.4-9.0	15-25	0.0-2.0	0-10
	16-26	---	---	---	---	---
91: Riverlost-----	0-5	17-22	6.6-7.8	0	0	0
	5-16	19-29	6.6-7.8	0	0	0
	16-26	23-33	6.6-7.8	0	0	0
	26-34	21-29	7.4-8.4	1-10	0.0-2.0	0-8
	34-48	8.0-29	7.4-8.4	15-30	0.0-2.0	0-8
	48-60	8.0-29	7.4-8.4	15-30	0.0-2.0	0-8
Frymire-----	0-4	23-31	6.6-7.8	0	0	0
	4-15	22-31	6.6-7.8	0	0	0
	15-31	26-36	6.6-7.8	0	0	0-3
	31-52	26-36	6.6-7.8	0	0	0-3
	52-61	19-29	6.6-7.8	0	0	0-3
92: Riverlost-----	0-5	17-22	6.6-7.8	0	0	0
	5-16	19-29	6.6-7.8	0	0	0
	16-26	23-33	6.6-7.8	0	0	0
	26-34	21-29	7.4-8.4	1-10	0.0-2.0	0-8
	34-48	8.0-29	7.4-8.4	15-30	0.0-2.0	0-8
	48-60	8.0-29	7.4-8.4	15-30	0.0-2.0	0-8

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
92: Grouseville-----	0-7	17-23	6.6-7.8	0	0	0
	7-33	22-34	7.4-7.8	0-5	0	0
	33-60	26-34	7.4-8.4	2-5	0.0-2.0	0
93: Riverlost-----	0-5	17-22	6.6-7.8	0	0	0
	5-16	19-29	6.6-7.8	0	0	0
	16-26	23-33	6.6-7.8	0	0	0
	26-34	21-29	7.4-8.4	1-10	0.0-2.0	0-8
	34-48	8.0-29	7.4-8.4	15-30	0.0-2.0	0-8
	48-60	8.0-29	7.4-8.4	15-30	0.0-2.0	0-8
Soen-----	0-7	22-28	6.6-7.8	0	0	0
	7-22	26-36	6.6-8.4	0-10	0	0
	22-60	13-20	7.4-9.0	15-25	0.0-2.0	0
94: Rubble land-----	0-60	---	---	---	---	---
Milligan-----	0-10	7.8-14	6.1-7.3	0	0	0
	10-28	7.2-13	6.6-7.8	0	0	0
	28-38	1.0-2.0	6.6-7.8	0	0	0
	38-48	---	---	---	---	---
95: Sanfelipe-----	0-3	9.4-17	7.4-7.8	0-15	0.0-2.0	0
	3-42	7.9-14	7.4-8.4	25-70	0.0-2.0	0
	42-60	0.8-6.8	7.4-8.4	65-70	0.0-2.0	0
96: Sanfelipe-----	0-3	9.4-17	7.4-7.8	0-15	0.0-2.0	0
	3-42	7.9-14	7.4-8.4	25-70	0.0-2.0	0
	42-60	0.8-6.8	7.4-8.4	65-70	0.0-2.0	0
97: Sanfelipe-----	0-15	9.4-17	7.4-7.8	0-15	0.0-2.0	0
	15-30	7.9-14	7.4-8.4	25-70	0.0-2.0	0
	30-60	3.4-12	7.4-8.4	65-70	0.0-2.0	0
McCaleb-----	0-5	11-16	7.9-8.4	20-30	0.0-2.0	0-5
	5-60	3.8-11	7.9-9.0	35-60	2.0-8.0	5-15
98: Sanfelipe-----	0-3	9.4-17	7.4-7.8	0-15	0.0-2.0	0
	3-42	7.9-14	7.4-8.4	25-70	0.0-2.0	0
	42-60	0.8-6.8	7.4-8.4	65-70	0.0-2.0	0
Simeroi-----	0-4	8.1-17	7.4-8.4	5-10	0.0-2.0	0-5
	4-26	8.1-17	7.4-8.4	30-70	0.0-2.0	0-5
	26-60	6.8-11	7.9-9.0	40-70	0.0-2.0	0-5
99: Simeroi-----	0-4	8.1-17	7.4-8.4	5-10	0.0-2.0	0-5
	4-26	8.1-17	7.4-8.4	30-70	0.0-2.0	0-5
	26-60	6.8-11	7.9-9.0	40-70	0.0-2.0	0-5
100: Simeroi-----	0-4	8.1-17	7.4-8.4	5-10	0.0-2.0	0-5
	4-26	8.1-17	7.4-8.4	30-70	0.0-2.0	0-5
	26-60	6.8-11	7.9-9.0	40-70	0.0-2.0	0-5

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
101: Simeroi-----	0-4	8.1-17	7.4-8.4	5-10	0.0-2.0	0-5
	4-26	8.1-17	7.4-8.4	30-70	0.0-2.0	0-5
	26-60	6.8-11	7.9-9.0	40-70	0.0-2.0	0-5
102: Simeroi, cool-----	0-4	8.1-17	7.4-8.4	5-10	0.0-2.0	0-5
	4-26	8.1-17	7.4-8.4	30-70	0.0-2.0	0-5
	26-60	6.8-11	7.9-9.0	40-70	0.0-2.0	0-5
103: Simeroi, dry-----	0-4	8.1-17	7.4-8.4	5-10	0.0-2.0	0-5
	4-26	8.1-17	7.4-8.4	30-70	0.0-2.0	0-5
	26-60	6.8-11	7.9-9.0	40-70	0.0-2.0	0-5
104: Simeroi-----	0-4	8.1-17	7.4-8.4	5-10	0.0-2.0	0-5
	4-26	8.1-17	7.4-8.4	30-70	0.0-2.0	0-5
	26-60	6.8-11	7.9-9.0	40-70	0.0-2.0	0-5
Paint-----	0-11	9.4-16	7.4-9.0	25-65	0.0-2.0	0-5
	11-19	9.4-16	7.4-9.0	40-70	2.0-8.0	5-15
	19-20	---	---	---	---	---
	20-60	1.6-6.8	7.9-9.0	35-70	2.0-8.0	5-15
105: Simeroi, dry-----	0-4	8.1-17	7.4-8.4	5-10	0.0-2.0	0-5
	4-26	8.1-17	7.4-8.4	30-70	0.0-2.0	0-5
	26-60	6.8-11	7.9-9.0	40-70	0.0-2.0	0-5
Simeroi-----	0-4	8.1-17	7.4-8.4	5-10	0.0-2.0	0-5
	4-26	8.1-17	7.4-8.4	30-70	0.0-2.0	0-5
	26-60	6.8-11	7.9-9.0	40-70	0.0-2.0	0-5
106: Simeroi-----	0-4	8.1-17	7.4-8.4	5-10	0.0-2.0	0-5
	4-26	8.1-17	7.4-8.4	30-70	0.0-2.0	0-5
	26-60	6.8-11	7.9-9.0	40-70	0.0-2.0	0-5
Sparmo-----	0-9	9.7-14	7.4-8.4	5-10	0.0-4.0	0-5
	9-22	9.4-12	7.9-9.0	10-40	2.0-4.0	2-8
	22-29	9.4-12	7.9-9.0	10-40	2.0-4.0	2-8
	29-40	9.4-12	7.9-9.0	10-40	2.0-4.0	2-8
	40-60	4.0-11	7.9-9.0	10-30	2.0-4.0	2-8
107: Simeroi-----	0-4	8.1-17	7.4-8.4	5-10	0.0-2.0	0-5
	4-26	8.1-17	7.4-8.4	30-70	0.0-2.0	0-5
	26-60	6.8-11	7.9-9.0	40-70	0.0-2.0	0-5
Slide-----	0-2	6.8-13	7.4-8.4	20-40	0	0
	2-16	6.8-13	7.9-8.4	20-40	0	0
	16-60	2.2-10	7.9-8.4	40-70	0	0
McCaleb-----	0-3	11-16	7.9-8.4	20-30	0.0-2.0	0-5
	3-13	9.0-13	7.9-8.4	20-35	0.0-2.0	0-10
	13-45	3.8-11	7.9-9.0	35-60	2.0-8.0	5-15
	45-60	3.8-11	7.9-9.0	35-60	2.0-8.0	5-15
108: Simeroi-----	0-4	8.1-17	7.4-8.4	5-10	0.0-2.0	0-5
	4-26	8.1-17	7.4-8.4	30-70	0.0-2.0	0-5
	26-60	6.8-11	7.9-9.0	40-70	0.0-2.0	0-5

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
108: Bealand-----	0-5	8.1-21	7.4-8.4	15-35	0.0-2.0	0-5
	5-10	6.8-14	7.4-8.4	35-40	0.0-2.0	0-5
	10-39	2.9-11	7.4-8.4	40-50	0.0-2.0	0-5
	39-60	2.9-11	7.4-8.4	40-50	0.0-2.0	0-5
109: Slide-----	0-3	6.8-13	7.4-8.4	20-40	0	0
	3-9	6.8-13	7.9-8.4	20-40	0	0
	9-18	2.2-10	7.9-8.4	20-40	0	0
	18-32	6.8-12	7.9-8.4	40-70	0	0
	32-60	2.2-6.8	7.9-8.4	40-70	0	0
110: Snowslide-----	0-8	9.4-14	7.4-8.4	0-25	0.0-4.0	0-2
	8-14	8.8-12	7.9-8.4	15-35	4.0-8.0	5-10
	14-60	4.6-14	7.4-8.4	15-35	8.0-16.0	5-10
111: Snowslide-----	0-3	9.4-14	7.4-8.4	0-25	0.0-4.0	0-2
	3-19	8.8-12	7.9-8.4	15-35	4.0-8.0	5-10
	19-60	4.6-14	7.4-8.4	15-35	8.0-16.0	5-10
112: Snowslide-----	0-7	9.4-14	7.4-8.4	0-25	0.0-4.0	0-2
	7-13	8.8-12	7.9-8.4	15-35	4.0-8.0	5-10
	13-60	4.6-14	7.4-8.4	15-35	8.0-16.0	5-10
Zer-----	0-5	7.6-14	7.4-8.4	0-5	0	0
	5-10	7.4-14	7.4-9.0	5-15	0.0-2.0	0
	10-22	7.4-14	7.9-9.0	20-35	0.0-2.0	0
	22-41	4.0-12	7.9-9.0	30-40	0.0-2.0	0
	41-60	1.9-6.7	7.9-9.0	15-30	0.0-2.0	0
113: Snowslide-----	0-3	9.4-14	7.4-8.4	0-25	0.0-4.0	0-2
	3-9	8.8-12	7.9-8.4	15-35	4.0-8.0	5-10
	9-60	4.6-14	7.4-8.4	15-35	8.0-16.0	5-10
Zer-----	0-5	7.6-14	7.4-8.4	0-5	0	0
	5-10	7.4-14	7.4-9.0	5-15	0.0-2.0	0
	10-22	7.4-14	7.9-9.0	20-35	0.0-2.0	0
	22-41	4.0-12	7.9-9.0	30-40	0.0-2.0	0
	41-60	1.9-6.7	7.9-9.0	15-30	0.0-2.0	0
Snowslide, low precipitation-----	0-8	9.4-14	7.4-8.4	0-25	0.0-4.0	0-2
	8-60	4.6-14	7.4-8.4	15-35	8.0-16.0	5-10
114: Soen-----	0-7	22-28	6.6-7.8	0	0	0
	7-22	26-36	6.6-8.4	0-10	0	0
	22-60	13-20	7.4-9.0	15-25	0.0-2.0	0
115: Soen-----	0-7	22-28	6.6-7.8	0	0	0
	7-22	26-36	6.6-8.4	0-10	0	0
	22-60	13-20	7.4-9.0	15-25	0.0-2.0	0
Justesen-----	0-10	11-17	6.6-7.3	0	0	0
	10-25	16-26	6.6-8.4	0	0	0
	25-60	10-14	7.9-8.4	15-35	0.0-2.0	0

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
116: Sparmo-----	0-9	9.7-14	7.4-8.4	5-10	0.0-4.0	0-5
	9-22	9.4-12	7.9-9.0	10-40	2.0-4.0	2-8
	22-29	9.4-12	7.9-9.0	10-40	2.0-4.0	2-8
	29-40	9.4-12	7.9-9.0	10-40	2.0-4.0	2-8
	40-60	4.0-11	7.9-9.0	10-30	2.0-4.0	2-8
117: Sparmo-----	0-9	9.7-14	7.4-8.4	5-10	0.0-4.0	0-5
	9-22	9.4-12	7.9-9.0	10-40	2.0-4.0	2-8
	22-29	9.4-12	7.9-9.0	10-40	2.0-4.0	2-8
	29-40	9.4-12	7.9-9.0	10-40	2.0-4.0	2-8
	40-60	4.0-11	7.9-9.0	10-30	2.0-4.0	2-8
Bluedome-----	0-9	6.7-13	7.4-9.0	20-30	0	0-8
	9-23	2.9-10	7.9-9.0	40-70	0.0-2.0	0-8
	23-24	---	---	---	---	---
	24-60	1.6-7.9	8.5-9.0	25-40	0.0-2.0	2-8
118: Sparmo-----	0-9	9.7-14	7.4-8.4	5-10	0.0-4.0	0-5
	9-22	9.4-12	7.9-9.0	10-40	2.0-4.0	2-8
	22-29	9.4-12	7.9-9.0	10-40	2.0-4.0	2-8
	29-40	9.4-12	7.9-9.0	10-40	2.0-4.0	2-8
	40-60	4.0-11	7.9-9.0	10-30	2.0-4.0	2-8
Zer-----	0-2	7.6-14	7.4-8.4	0-5	0	0
	2-8	7.4-14	7.4-9.0	5-15	0.0-2.0	0
	8-14	7.4-14	7.9-9.0	20-35	0.0-2.0	0
	14-25	4.0-12	7.9-9.0	30-40	0.0-2.0	0
	25-60	1.9-6.7	7.9-9.0	15-30	0.0-2.0	0
119: Splittop-----	0-3	14-18	6.6-7.8	0-5	0	0
	3-8	14-19	7.4-8.4	0-5	0	0
	8-26	12-18	7.9-9.0	15-30	0.0-2.0	0
	26-32	12-18	7.9-9.0	15-20	0.0-2.0	0
	32-42	---	---	---	---	---
Atomic-----	0-15	14-20	7.4-8.4	0-5	0.0-2.0	0
	15-34	13-19	7.4-9.0	5-40	0.0-2.0	0
	34-46	11-18	7.9-9.0	15-40	0.0-2.0	0
	46-56	---	---	---	---	---
120: Splittop-----	0-3	14-18	6.6-7.8	0-5	0	0
	3-8	14-19	7.4-8.4	0-5	0	0
	8-26	12-18	7.9-9.0	15-30	0.0-2.0	0
	26-32	12-18	7.9-9.0	15-20	0.0-2.0	0
	32-42	---	---	---	---	---
Coffee-----	0-7	12-19	7.4-8.4	5-10	4.0-8.0	0-5
	7-25	9.4-19	7.9-9.0	15-25	8.0-16.0	13-35
	25-48	9.8-22	7.9-9.0	15-30	8.0-16.0	13-35
	48-58	---	---	---	---	---
121: Stan-----	0-2	7.8-14	7.4-8.4	2-5	0.0-2.0	0-5
	2-13	7.8-14	7.4-8.4	5-10	0.0-2.0	0-5
	13-33	7.2-13	7.4-8.4	15-25	0.0-2.0	0-5
	33-40	5.8-9.8	7.4-8.4	5-10	0.0-2.0	0-5
	40-60	3.8-7.2	7.4-8.4	2-5	0.0-2.0	0-5

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
122:						
Stan-----	0-2	7.8-14	7.4-8.4	2-5	0.0-2.0	0-5
	2-13	7.8-14	7.4-8.4	5-10	0.0-2.0	0-5
	13-33	7.2-13	7.4-8.4	15-25	0.0-2.0	0-5
	33-40	5.8-9.8	7.4-8.4	5-10	0.0-2.0	0-5
	40-60	3.8-7.2	7.4-8.4	2-5	0.0-2.0	0-5
Breitenbach-----	0-9	11-17	7.4-7.8	0	0	0
	9-17	11-16	7.4-8.4	0	0	0
	17-30	8.5-13	7.4-8.4	5-10	0	0-2
	30-34	8.5-13	7.9-8.4	10-15	0	0-2
	34-60	0.0-5.8	7.9-8.4	5-10	0	0-2
123:						
Stan, loamy fine sand surface-----	0-4	7.8-14	7.4-8.4	2-5	0.0-2.0	0-5
	4-15	7.8-14	7.4-8.4	5-10	0.0-2.0	0-5
	15-29	7.2-13	7.4-8.4	15-25	0.0-2.0	0-5
	29-40	5.8-9.8	7.4-8.4	5-10	0.0-2.0	0-5
	40-60	3.8-7.2	7.4-8.4	2-5	0.0-2.0	0-5
Stan-----	0-2	7.8-14	7.4-8.4	2-5	0.0-2.0	0-5
	2-13	7.8-14	7.4-8.4	5-10	0.0-2.0	0-5
	13-33	7.2-13	7.4-8.4	15-25	0.0-2.0	0-5
	33-40	5.8-9.8	7.4-8.4	5-10	0.0-2.0	0-5
	40-60	3.8-7.2	7.4-8.4	2-5	0.0-2.0	0-5
124:						
Starlite-----	0-14	6.7-13	7.9-9.0	20-30	0	0
	14-32	6.2-24	7.9-9.0	40-45	0	0
	32-37	5.5-20	7.9-9.0	40-45	0	0
	37-47	5.5-20	7.9-9.0	40-45	0	0
	47-60	3.0-6.0	7.9-9.0	35-40	0	0
125:						
Techick-----	0-4	9.2-18	6.6-7.8	0	0	0
	4-12	19-26	7.4-7.8	0	0	0
	12-25	19-26	7.4-8.4	15-20	0	0
	25-46	8.5-16	7.4-8.4	15-25	0	0
	46-60	0.0-2.3	7.4-8.4	0	0	0
Soelberg-----	0-2	15-21	6.6-7.8	0	0	0
	2-30	19-26	7.4-8.4	15-25	0	0
	30-34	0.0-2.6	7.4-8.4	5-15	0	0
	34-60	0.0-2.6	7.4-8.4	0-10	0	0
126:						
Techick-----	0-4	9.2-18	6.6-7.8	0	0	0
	4-12	19-26	7.4-7.8	0	0	0
	12-25	19-26	7.4-8.4	15-20	0	0
	25-46	8.5-16	7.4-8.4	15-25	0	0
	46-60	0.0-2.3	7.4-8.4	0	0	0
Soelberg-----	0-10	15-21	6.6-7.8	0	0	0
	10-28	19-26	7.4-8.4	0-10	0	0
	28-36	8.5-15	7.9-8.4	15-25	0	0
	36-40	0.0-2.6	7.4-8.4	5-15	0	0
	40-60	0.0-2.6	7.4-8.4	0-10	0	0
Lesbut-----	0-3	11-19	6.6-7.3	0	0	0
	3-13	11-19	6.6-7.3	0	0	0
	13-19	7.8-16	6.6-7.8	0-5	0	0
	19-60	0.0-3.8	7.4-7.8	1-5	0	0

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
127:						
Techicknot-----	0-4	16-21	7.4-7.8	0	0	0
	4-29	19-26	7.4-8.4	0	0	0
	29-48	16-22	7.4-8.4	15-25	0.0-2.0	0
	48-60	14-20	7.9-9.0	15-30	0.0-2.0	0-5
Atom-----	0-7	14-20	7.4-8.4	0-10	0.0-2.0	0-5
	7-15	13-22	8.5-10.0	15-40	0.0-2.0	13-30
	15-60	12-20	8.5-10.0	15-40	8.0-16.0	13-30
Nargon-----	0-5	13-18	7.4-8.4	3-15	0	0
	5-15	14-21	7.4-8.4	15-25	0.0-2.0	0-2
	15-22	11-17	7.9-8.4	15-40	0.0-2.0	0-2
	22-32	---	---	---	---	---
128:						
Tenno-----	0-4	6.9-14	7.4-7.8	0	0	0
	4-13	6.7-14	7.4-8.4	0-15	0.0-2.0	0
	13-18	6.7-14	7.4-9.0	15-20	0.0-2.0	0
	18-28	---	---	---	---	---
Splittop-----	0-3	14-18	6.6-7.8	0-5	0	0
	3-30	14-19	7.4-8.4	15-20	0.0-2.0	0
	30-34	12-18	7.9-8.4	15-20	0.0-2.0	0
	34-44	---	---	---	---	---
Lava flows-----	0-60	---	---	---	---	---
129:						
Tenno-----	0-4	6.9-14	7.4-7.8	0	0	0
	4-13	6.7-14	7.4-8.4	0-15	0.0-2.0	0
	13-18	6.7-14	7.4-9.0	15-20	0.0-2.0	0
	18-28	---	---	---	---	---
Splittop-----	0-4	14-18	6.6-7.8	0-5	0	0
	4-30	14-19	7.9-9.0	15-30	0.0-2.0	0
	30-40	---	---	---	---	---
McCarey-----	0-4	9.2-18	6.6-7.8	0	0	0
	4-17	16-26	7.4-8.4	0	0.0-2.0	0
	17-21	10-17	7.4-9.0	15-30	0.0-2.0	0-5
	21-31	---	---	---	---	---
130:						
Thornock-----	0-5	8.3-14	6.6-7.8	0-5	0.0-2.0	0
	5-10	15-18	7.4-7.8	5-15	0.0-2.0	0
	10-16	5.8-13	7.4-9.0	15-25	0.0-2.0	0-10
	16-26	---	---	---	---	---
Portino-----	0-4	6.7-14	7.4-8.4	5-15	0.0-2.0	0
	4-29	5.8-13	7.9-9.0	15-30	0.0-2.0	2-10
	29-39	---	---	---	---	---
131:						
Thornock-----	0-5	8.3-14	6.6-7.8	0-5	0.0-2.0	0
	5-10	15-18	7.4-7.8	5-15	0.0-2.0	0
	10-16	5.8-13	7.4-9.0	15-25	0.0-2.0	0-10
	16-26	---	---	---	---	---
Portino-----	0-4	6.7-14	7.4-8.4	5-15	0.0-2.0	0
	4-29	5.8-13	7.9-9.0	15-30	0.0-2.0	2-10
	29-39	---	---	---	---	---

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
132:						
Thosand-----	0-3	14-21	7.4-7.8	40-65	4.0-8.0	0
	3-16	14-21	7.4-7.8	40-65	4.0-8.0	0
	16-41	14-21	7.4-8.4	5-40	0.0-4.0	0
	41-52	7.2-15	7.4-8.4	5-20	0	0
	52-60	1.6-5.8	7.4-8.4	0-10	0	0
San crane-----	0-2	---	4.5-5.5	0	0	0
	2-5	11-19	7.9-8.4	25-35	4.0-8.0	0
	5-31	12-17	7.4-8.4	15-30	4.0-8.0	0
	31-60	1.2-3.9	7.4-7.8	0-10	0.0-2.0	0
133:						
Truesdale-----	0-6	8.3-14	7.4-8.4	5-15	0.0-2.0	0
	6-15	8.3-14	7.4-8.4	5-15	0.0-2.0	0
	15-21	8.1-14	7.9-9.0	15-40	2.0-4.0	0-5
	21-25	8.1-14	7.9-9.0	15-40	2.0-4.0	0-5
	25-54	7.0-13	7.9-9.0	20-35	2.0-4.0	0-5
	54-57	5.8-11	7.9-9.0	20-40	4.0-8.0	0-5
	57-67	---	---	---	---	---
Minidoka-----	0-10	8.3-14	7.4-8.4	5-15	0.0-2.0	0-5
	10-29	8.1-14	7.9-9.0	15-40	0.0-2.0	0-5
	29-46	---	---	---	---	---
	46-57	8.1-14	7.9-9.0	15-40	0.0-2.0	0-5
	57-64	7.0-13	7.9-9.0	15-30	0.0-2.0	0-5
134:						
Vitale-----	0-3	11-21	6.1-7.3	0	0	0
	3-10	12-17	6.6-7.8	0	0	0
	10-24	20-28	6.6-7.8	0	0	0
	24-33	12-23	6.6-7.8	0	0	0
	33-43	---	---	---	---	---
Black spar-----	0-6	7.3-14	6.6-7.3	0	0	0
	6-12	11-18	6.6-7.3	0	0	0
	12-22	---	---	---	---	---
135:						
White cloud-----	0-11	7.6-16	7.4-8.4	10-20	0	0
	11-20	2.2-9.5	7.4-8.4	55-80	0.0-2.0	0
	20-60	1.1-5.6	7.9-8.4	55-80	0.0-2.0	0
136:						
White cloud-----	0-12	7.6-16	7.4-8.4	10-20	0	0
	12-22	2.2-9.5	7.4-8.4	55-80	0.0-2.0	0
	22-60	1.1-5.6	7.9-8.4	55-80	0.0-2.0	0
San Felipe-----	0-10	9.4-17	7.4-7.8	0-15	0.0-2.0	0
	10-29	7.9-14	7.4-8.4	25-70	0.0-2.0	0
	29-60	0.8-6.8	7.4-8.4	65-70	0.0-2.0	0
137:						
Zeale-----	0-10	13-19	7.4-8.4	15-45	0	0
	10-60	9.5-21	7.9-9.0	40-80	0.0-2.0	0-5
Zeale, high precipitation-----	0-14	13-19	7.4-8.4	15-45	0	0
	14-60	9.5-21	7.9-9.0	40-80	0.0-2.0	0-5



## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
138:						
Zeale-----	0-10	13-19	7.4-8.4	15-45	0	0
	10-60	9.5-21	7.9-9.0	40-80	0.0-2.0	0-5
Zeale, high precipitation-----	0-14	13-19	7.4-8.4	15-45	0	0
	14-60	9.5-21	7.9-9.0	40-80	0.0-2.0	0-5
139:						
Zeale-----	0-15	13-19	7.4-8.4	15-45	0	0
	15-60	9.5-21	7.9-9.0	40-80	0.0-2.0	0-5
Coalkiln-----	0-1	---	4.5-5.5	0	0	0
	1-5	13-20	6.6-7.8	1-10	0	0-3
	5-9	11-17	6.6-7.8	1-10	0	0-3
	9-17	9.4-17	7.4-7.8	15-40	0	0-3
	17-41	4.7-14	7.4-8.4	40-50	0	0-8
	41-60	3.4-11	7.4-8.4	20-40	0	0-8
Jimbee-----	0-3	9.4-19	7.9-8.4	25-55	0	0
	3-18	7.9-19	7.9-9.0	40-55	0.0-2.0	0
	18-28	---	---	---	---	---
140:						
Zeebar, cool-----	0-4	16-22	6.6-7.8	0	0	0
	4-12	15-22	6.6-7.8	0	0	0
	12-50	15-22	6.6-7.8	0	0	0
	50-60	10-17	6.6-7.8	0	0	0
Zeebar-----	0-3	16-22	6.6-7.8	0	0	0
	3-19	15-22	6.6-7.8	0	0	0
	19-41	15-22	6.6-7.8	0	0	0
	41-60	10-17	6.6-7.8	0	0	0
141:						
Zeebar-----	0-4	16-22	6.6-7.8	0	0	0
	4-10	15-22	6.6-7.8	0	0	0
	10-28	15-20	6.6-7.8	0	0	0
	28-37	17-20	6.6-7.8	0	0	0
	37-60	10-17	6.6-7.8	0	0	0
Parvis-----	0-8	16-23	6.1-7.3	0	0	0
	8-28	15-22	6.1-7.3	0	0	0
	28-43	19-22	6.6-7.8	0	0	0
	43-60	19-22	6.6-7.8	0	0	0
Howcan-----	0-4	10.0-23	6.6-7.8	0	0	0
	4-10	9.2-21	6.6-7.8	0	0	0
	10-38	15-21	6.6-7.8	0	0	0
	38-54	10-16	6.6-7.8	0	0	0
	54-64	---	---	---	---	---
142:						
Zer-----	0-7	7.6-14	7.4-8.4	0-5	0	0
	7-38	7.4-14	7.9-9.0	20-35	0.0-2.0	0
	38-60	4.0-12	7.9-9.0	30-40	0.0-2.0	0
143:						
Zer-----	0-8	12-18	7.4-8.4	0-5	0	0
	8-20	6.4-13	7.9-9.0	20-35	0.0-2.0	0
	20-60	7.0-12	7.9-9.0	30-40	0.0-2.0	0

## Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>mmhos/cm</i>	
144: Zer-----	0-3	12-15	7.4-8.4	0-5	0	0
	3-37	9.4-15	7.9-9.0	20-35	0.0-2.0	0
	37-60	1.9-6.0	7.9-9.0	30-40	0.0-2.0	0
145: Zer-----	0-7	12-15	7.4-8.4	0-5	0	0
	7-26	9.4-15	7.9-9.0	20-35	0.0-2.0	0
	26-60	1.9-6.0	7.9-9.0	30-40	0.0-2.0	0
146: Zer-----	0-2	7.6-14	7.4-8.4	0-5	0	0
	2-8	7.4-14	7.4-9.0	5-15	0.0-2.0	0
	8-18	7.4-14	7.9-9.0	20-35	0.0-2.0	0
	18-60	4.0-12	7.9-9.0	30-40	0.0-2.0	0
Snowslide-----	0-10	9.4-14	7.4-8.4	0-25	0.0-4.0	0-2
	10-34	8.8-12	7.9-8.4	15-35	4.0-8.0	5-10
	34-60	4.6-14	7.4-8.4	15-35	8.0-16.0	5-10
147: Zer-----	0-3	7.6-14	7.4-8.4	0-5	0	0
	3-17	7.4-14	7.9-9.0	20-35	0.0-2.0	0
	17-33	4.0-12	7.9-9.0	30-40	0.0-2.0	0
	33-60	1.9-6.7	7.9-9.0	15-30	0.0-2.0	0
Whiteknob-----	0-3	8.3-14	7.4-9.0	10-20	0.0-2.0	0-5
	3-10	8.1-14	7.4-9.0	10-20	0.0-2.0	0-5
	10-12	4.6-8.3	7.9-9.0	15-30	0.0-2.0	0-5
	12-60	3.0-6.9	7.9-9.0	15-35	0.0-2.0	0
148: Mooretown-----	0-3	12-19	6.6-7.8	0-10	0	0
	3-24	9.2-17	7.4-8.4	0-15	0.0-2.0	0
	24-48	9.2-17	7.4-8.4	0-15	0.0-2.0	0
	48-60	3.8-8.5	6.6-7.8	0	0	0
Blackfoot-----	0-19	13-19	7.4-8.4	0-15	0.0-2.0	0-5
	19-36	14-21	7.4-8.4	0-15	0.0-2.0	0-5
	36-60	15-35	7.4-8.4	20-35	0.0-4.0	1-5
Borah-----	0-4	7.8-14	7.4-8.4	1-10	0.0-2.0	0-5
	4-12	7.8-14	7.4-8.4	5-20	0.0-2.0	0
	12-60	1.4-6.2	7.4-8.4	0-10	0.0-2.0	0
149: Drage, cool-----	0-14	13-21	6.6-7.8	0	0	0
	14-30	19-25	6.6-7.8	0	0	0
	30-60	7.2-23	7.4-8.4	10-30	0.0-2.0	0-5
150: Vitale-----	0-6	13-21	6.1-7.3	0	0	0
	6-15	15-28	6.6-7.8	0	0	0
	15-23	12-23	6.6-7.8	0	0	0
	23-33	---	---	---	---	---
Blackspar-----	0-7	7.3-14	6.6-7.3	0	0	0
	7-17	11-18	6.6-7.3	0	0	0
	17-27	---	---	---	---	---

# Water Features

(Depths of layers are in inches. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			In	In	In				
1: Arco-----	C	April	24-35	>72	---	---	None	Brief	Occasional
		May	24-35	>72	---	---	None	Brief	Occasional
		June	24-35	>72	---	---	None	Brief	Occasional
2: Atom-----	B	Jan-Dec	---	---	---	---	None	---	None
3: Atom-----	B	Jan-Dec	---	---	---	---	None	---	None
4: Atom-----	B	Jan-Dec	---	---	---	---	None	---	None
Splittop-----	C	Jan-Dec	---	---	---	---	None	---	None
5: Bealand-----	B	Jan-Dec	---	---	---	---	None	---	None
Zeale-----	B	Jan-Dec	---	---	---	---	None	---	None
6: Blackfoot-----	C	March	18-35	>72	---	---	None	---	None
		April	18-35	>72	---	---	None	---	None
		May	18-35	>72	---	---	None	---	None
		June	18-35	>72	---	---	None	---	None
		July	18-35	>72	---	---	None	---	None
		August	18-35	>72	---	---	None	---	None
		September	18-35	>72	---	---	None	---	None
		October	18-35	>72	---	---	None	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
7: Bluedome-----	C	Jan-Dec	---	---	---	---	None	---	None
8: Bluedome-----	C	Jan-Dec	---	---	---	---	None	---	None
McCaleb-----	B	Jan-Dec	---	---	---	---	None	---	None
9: Bockston-----	B	Jan-Dec	---	---	---	---	None	---	None
10: Breitenbach-----	B	Jan-Dec	---	---	---	---	None	---	None
11: Breitenbach-----	B	Jan-Dec	---	---	---	---	None	---	None
Stan-----	A	Jan-Dec	---	---	---	---	None	---	None
12: Buist-----	B	Jan-Dec	---	---	---	---	None	---	None
13: Bunting-----	A	Jan-Dec	---	---	---	---	None	---	None
14: Coffee-----	B	Jan-Dec	---	---	---	---	None	---	None
15: Coffee-----	B	Jan-Dec	---	---	---	---	None	---	None
Nargon-----	C	Jan-Dec	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
16: Coffee-----	B	Jan-Dec	---	---	---	---	None	---	None
Nargon-----	C	Jan-Dec	---	---	---	---	None	---	None
Atom-----	B	Jan-Dec	---	---	---	---	None	---	None
17: Cronks-----	C	Jan-Dec	---	---	---	---	None	---	None
Dacont-----	B	Jan-Dec	---	---	---	---	None	---	None
18: Crooked Creek-----	D	February	36-72	>72	---	---	None	---	None
		March	36-72	>72	---	---	None	---	None
		April	36-72	>72	---	---	None	---	None
19: Cryborolls-----	B	Jan-Dec	---	---	---	---	None	---	None
Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
20: Darlington-----	A	Jan-Dec	---	---	---	---	None	---	None
Lesbut-----	A	Jan-Dec	---	---	---	---	None	---	None
21: Denied access-----	---	Jan-Dec	---	---	---	---	None	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
22: Deuce-----	D	Jan-Dec	---	---	---	---	None	---	None
Nargon-----	C	Jan-Dec	---	---	---	---	None	---	None
Lava flows-----	D	Jan-Dec	---	---	---	---	None	---	None
23: Deuce-----	D	Jan-Dec	---	---	---	---	None	---	None
Nargon-----	C	Jan-Dec	---	---	---	---	None	---	None
Lava flows-----	D	Jan-Dec	---	---	---	---	None	---	None
24: Dickeypeak-----	C	March	18-42	>72	---	---	None	---	None
		April	18-42	>72	---	---	None	---	None
		May	18-42	>72	---	---	None	---	None
		June	18-42	>72	---	---	None	---	None
		July	18-42	>72	---	---	None	---	None
		August	18-42	>72	---	---	None	---	None
Bigrant-----	C	April	6-18	>72	---	---	None	Brief	Occasional
		May	6-18	>72	---	---	None	Brief	Occasional
		June	6-18	>72	---	---	None	Brief	Occasional
		July	6-18	>72	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
25: Donkehill-----	D	Jan-Dec	---	---	---	---	None	---	None
26: Dredge-----	B	Jan-Dec	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
27: Elbow-----	C	Jan-Dec	---	---	---	---	None	---	None
28: Fallert-----	B	Jan-Dec	---	---	---	---	None	---	None
29: Fallert, dry-----	B	Jan-Dec	---	---	---	---	None	---	None
30: Fandow-----	D	Jan-Dec	---	---	---	---	None	---	None
31: Fulwider, high precipitation-----	D	Jan-Dec	---	---	---	---	None	---	None
Fulwider, low precipitation-----	D	Jan-Dec	---	---	---	---	None	---	None
Fulwider-----	D	Jan-Dec	---	---	---	---	None	---	None
32: Goosebury, high precipitation-----	B	Jan-Dec	---	---	---	---	None	---	None
33: Goosebury-----	B	Jan-Dec	---	---	---	---	None	---	None
34: Goosebury, low precipitation-----	B	Jan-Dec	---	---	---	---	None	---	None
Goosebury, high precipitation-----	B	Jan-Dec	---	---	---	---	None	---	None
35: Hagenbarth-----	B	Jan-Dec	---	---	---	---	None	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
35: Howcan-----	B	Jan-Dec	---	---	---	---	None	---	None
Jonda-----	B	Jan-Dec	---	---	---	---	None	---	None
36: Hal-----	B	Jan-Dec	---	---	---	---	None	---	None
Moonville-----	B	Jan-Dec	---	---	---	---	None	---	None
37: Hondoho-----	B	Jan-Dec	---	---	---	---	None	---	None
38: Howcan-----	B	Jan-Dec	---	---	---	---	None	---	None
Hutchley-----	D	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
39: Howcan-----	B	Jan-Dec	---	---	---	---	None	---	None
Zeebar-----	B	Jan-Dec	---	---	---	---	None	---	None
Hutchley-----	D	Jan-Dec	---	---	---	---	None	---	None
40: Huddle-----	B	Jan-Dec	---	---	---	---	None	---	None
Moonville-----	B	Jan-Dec	---	---	---	---	None	---	None



Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
41: Ike-----	D	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
Jimbee-----	D	Jan-Dec	---	---	---	---	None	---	None
42: Ike-----	D	Jan-Dec	---	---	---	---	None	---	None
Simeroi-----	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
43: Inel-----	D	Jan-Dec	---	---	---	---	None	---	None
Matheson-----	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
44: Inel-----	D	Jan-Dec	---	---	---	---	None	---	None
Slide-----	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
45: Jimbee-----	D	Jan-Dec	---	---	---	---	None	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
45: Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
Ike-----	D	Jan-Dec	---	---	---	---	None	---	None
46: Jimbee-----	D	Jan-Dec	---	---	---	---	None	---	None
Skibo-----	B	Jan-Dec	---	---	---	---	None	---	None
Ike-----	D	Jan-Dec	---	---	---	---	None	---	None
47: Justesen-----	B	Jan-Dec	---	---	---	---	None	---	None
Drage-----	B	Jan-Dec	---	---	---	---	None	---	None
48: Ketchum-----	B	Jan-Dec	---	---	---	---	None	---	None
Povey-----	B	Jan-Dec	---	---	---	---	None	---	None
49: Kimama-----	B	Jan-Dec	---	---	---	---	None	---	None
50: Klug-----	B	Jan-Dec	---	---	---	---	None	---	None
51: Klug-----	B	Jan-Dec	---	---	---	---	None	---	None
Parvis-----	B	Jan-Dec	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
52: Lag-----	B	Jan-Dec	---	---	---	---	None	---	None
53: Lavacreek-----	B	Jan-Dec	---	---	---	---	None	---	None
Dollarhide-----	D	Jan-Dec	---	---	---	---	None	---	None
54: Lavacreek-----	B	Jan-Dec	---	---	---	---	None	---	None
Dollarhide-----	D	Jan-Dec	---	---	---	---	None	---	None
Grassycone-----	A	Jan-Dec	---	---	---	---	None	---	None
55: Lavacreek-----	B	Jan-Dec	---	---	---	---	None	---	None
Vitale-----	C	Jan-Dec	---	---	---	---	None	---	None
56: Lava flows-----	D	Jan-Dec	---	---	---	---	None	---	None
57: Lava flows-----	D	Jan-Dec	---	---	---	---	None	---	None
Cinderhurst-----	D	Jan-Dec	---	---	---	---	None	---	None
58: Lava flows-----	D	Jan-Dec	---	---	---	---	None	---	None
Pingree-----	D	Jan-Dec	---	---	---	---	None	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
59: Leatherman-----	D	Jan-Dec	---	---	---	---	None	---	None
Adek, dry-----	B	Jan-Dec	---	---	---	---	None	---	None
Adek-----	B	Jan-Dec	---	---	---	---	None	---	None
60: Leatherman-----	D	Jan-Dec	---	---	---	---	None	---	None
Bluedome-----	C	Jan-Dec	---	---	---	---	None	---	None
61: Malm-----	C	Jan-Dec	---	---	---	---	None	---	None
Bondfarm-----	D	Jan-Dec	---	---	---	---	None	---	None
Matheson-----	B	Jan-Dec	---	---	---	---	None	---	None
62: Matheson-----	B	Jan-Dec	---	---	---	---	None	---	None
Grassy Butte-----	A	Jan-Dec	---	---	---	---	None	---	None
63: McCain-----	C	Jan-Dec	---	---	---	---	None	---	None
Thornock-----	D	Jan-Dec	---	---	---	---	None	---	None
64: McCarey-----	C	Jan-Dec	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
64: Beartrap-----	B	Jan-Dec	---	---	---	---	None	---	None
65: McCarey-----	C	Jan-Dec	---	---	---	---	None	---	None
Beartrap-----	B	Jan-Dec	---	---	---	---	None	---	None
66: McCarey-----	C	Jan-Dec	---	---	---	---	None	---	None
Beartrap-----	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
67: McCarey-----	C	Jan-Dec	---	---	---	---	None	---	None
Molyneux-----	B	Jan-Dec	---	---	---	---	None	---	None
Lava flows-----	D	Jan-Dec	---	---	---	---	None	---	None
68: McCarey-----	C	Jan-Dec	---	---	---	---	None	---	None
Splittop-----	C	Jan-Dec	---	---	---	---	None	---	None
Lava flows-----	D	Jan-Dec	---	---	---	---	None	---	None
69: McCarey-----	C	Jan-Dec	---	---	---	---	None	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
69: Vickton-----	B	Jan-Dec	---	---	---	---	None	---	None
Lava flows-----	D	Jan-Dec	---	---	---	---	None	---	None
70: McClenden-----	B	Jan-Dec	---	---	---	---	None	---	None
Thornock-----	D	Jan-Dec	---	---	---	---	None	---	None
71: Medicine-----	B	Jan-Dec	---	---	---	---	None	---	None
Whiteknob-----	B	Jan-Dec	---	---	---	---	None	---	None
72: Menan-----	B	Jan-Dec	---	---	---	---	None	---	None
73: Mogg-----	D	Jan-Dec	---	---	---	---	None	---	None
Shagel-----	D	Jan-Dec	---	---	---	---	None	---	None
74: Mooretown-----	D	April	18-36	>72	---	---	None	Brief	Occasional
		May	18-36	>72	---	---	None	Brief	Occasional
		June	18-36	>72	---	---	None	---	None
		July	18-36	>72	---	---	None	---	None
Borah-----	A	April	12-24	>72	---	---	None	Brief	Occasional
		May	12-24	>72	---	---	None	Brief	Occasional
		June	12-24	>72	---	---	None	---	None
		July	12-24	>72	---	---	None	---	None
		August	12-24	>72	---	---	None	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
75: Mooretown, drained-----	C	April	---	---	---	---	None	Brief	Occasional
		May	---	---	---	---	None	Brief	Occasional
Borco-----	A	Jan-Dec	---	---	---	---	None	---	None
76: Nargon-----	C	Jan-Dec	---	---	---	---	None	---	None
Atom-----	B	Jan-Dec	---	---	---	---	None	---	None
Techicknot-----	B	Jan-Dec	---	---	---	---	None	---	None
77: Nargon-----	C	Jan-Dec	---	---	---	---	None	---	None
Deuce-----	D	Jan-Dec	---	---	---	---	None	---	None
Lava flows-----	D	Jan-Dec	---	---	---	---	None	---	None
78: Nitchly-----	B	Jan-Dec	---	---	---	---	None	---	None
79: Nurkey-----	B	Jan-Dec	---	---	---	---	None	---	None
Dacont-----	B	Jan-Dec	---	---	---	---	None	---	None
80: Nurkey-----	B	Jan-Dec	---	---	---	---	None	---	None
Dacont-----	B	Jan-Dec	---	---	---	---	None	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
81: Nurkey-----	B	Jan-Dec	---	---	---	---	None	---	None
Nurkey, low precipitation-----	B	Jan-Dec	---	---	---	---	None	---	None
82: Calcids-----	C	Jan-Dec	---	---	---	---	None	---	None
Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
83: Packmo-----	B	Jan-Dec	---	---	---	---	None	---	None
Snowslide-----	B	Jan-Dec	---	---	---	---	None	---	None
84: Paint-----	D	Jan-Dec	---	---	---	---	None	---	None
Fallert-----	B	Jan-Dec	---	---	---	---	None	---	None
85: Paint-----	D	Jan-Dec	---	---	---	---	None	---	None
Whitecloud-----	B	Jan-Dec	---	---	---	---	None	---	None
86: Pancheri-----	B	Jan-Dec	---	---	---	---	None	---	None
87: Pancheri-----	B	Jan-Dec	---	---	---	---	None	---	None



Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
87: Polatis-----	C	Jan-Dec	---	---	---	---	None	---	None
88: Playas-----	D	January	12-72	>72	0-12	Brief	Occasional	---	None
		February	12-72	>72	0-12	Brief	Occasional	---	None
		March	12-72	>72	0-12	Brief	Occasional	---	None
		April	12-72	>72	0-12	Brief	Occasional	---	None
		May	12-72	>72	0-12	Brief	Occasional	---	None
		June	12-72	>72	0-12	Brief	Occasional	---	None
		July	12-72	>72	0-12	Brief	Occasional	---	None
		August	12-72	>72	0-12	Brief	Occasional	---	None
		September	12-72	>72	0-12	Brief	Occasional	---	None
		October	12-72	>72	0-12	Brief	Occasional	---	None
		November	12-72	>72	0-12	Brief	Occasional	---	None
		December	12-72	>72	0-12	Brief	Occasional	---	None
89: Polatis-----	C	Jan-Dec	---	---	---	---	None	---	None
90: Portino-----	C	Jan-Dec	---	---	---	---	None	---	None
Thornock-----	D	Jan-Dec	---	---	---	---	None	---	None
91: Riverlost-----	B	Jan-Dec	---	---	---	---	None	---	None
Frymire-----	C	Jan-Dec	---	---	---	---	None	---	None
92: Riverlost-----	B	Jan-Dec	---	---	---	---	None	---	None
Grouseville-----	C	Jan-Dec	---	---	---	---	None	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
93: Riverlost-----	B	Jan-Dec	---	---	---	---	None	---	None
Soen-----	C	Jan-Dec	---	---	---	---	None	---	None
94: Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
Milligan-----	C	Jan-Dec	---	---	---	---	None	---	None
95: Sanfelipe-----	B	Jan-Dec	---	---	---	---	None	---	None
96: Sanfelipe-----	B	Jan-Dec	---	---	---	---	None	---	None
97: Sanfelipe-----	B	Jan-Dec	---	---	---	---	None	---	None
McCaleb-----	B	Jan-Dec	---	---	---	---	None	---	None
98: Sanfelipe-----	B	Jan-Dec	---	---	---	---	None	---	None
Simeroi-----	B	Jan-Dec	---	---	---	---	None	---	None
99: Simeroi-----	B	Jan-Dec	---	---	---	---	None	---	None
100: Simeroi-----	B	Jan-Dec	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
101: Simeroi-----	B	Jan-Dec	---	---	---	---	None	---	None
102: Simeroi, cool-----	B	Jan-Dec	---	---	---	---	None	---	None
103: Simeroi, dry-----	B	Jan-Dec	---	---	---	---	None	---	None
104: Simeroi-----	B	Jan-Dec	---	---	---	---	None	---	None
Paint-----	D	Jan-Dec	---	---	---	---	None	---	None
105: Simeroi, dry-----	B	Jan-Dec	---	---	---	---	None	---	None
Simeroi-----	B	Jan-Dec	---	---	---	---	None	---	None
106: Simeroi-----	B	Jan-Dec	---	---	---	---	None	---	None
Sparmo-----	B	Jan-Dec	---	---	---	---	None	---	None
107: Simeroi-----	B	Jan-Dec	---	---	---	---	None	---	None
Slide-----	B	Jan-Dec	---	---	---	---	None	---	None
McCaleb-----	B	Jan-Dec	---	---	---	---	None	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
108: Simeroi-----	B	Jan-Dec	---	---	---	---	None	---	None
Bealand-----	B	Jan-Dec	---	---	---	---	None	---	None
109: Slide-----	B	Jan-Dec	---	---	---	---	None	---	None
110: Snowslide-----	B	Jan-Dec	---	---	---	---	None	---	None
111: Snowslide-----	B	Jan-Dec	---	---	---	---	None	---	None
112: Snowslide-----	B	Jan-Dec	---	---	---	---	None	---	None
Zer-----	B	Jan-Dec	---	---	---	---	None	---	None
113: Snowslide-----	B	Jan-Dec	---	---	---	---	None	---	None
Zer-----	B	Jan-Dec	---	---	---	---	None	---	None
Snowslide, low precipitation-----	B	Jan-Dec	---	---	---	---	None	---	None
114: Soen-----	C	Jan-Dec	---	---	---	---	None	---	None
115: Soen-----	C	Jan-Dec	---	---	---	---	None	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
115: Justesen-----	B	Jan-Dec	---	---	---	---	None	---	None
116: Sparmo-----	B	Jan-Dec	---	---	---	---	None	---	None
117: Sparmo-----	B	Jan-Dec	---	---	---	---	None	---	None
Bluedome-----	C	Jan-Dec	---	---	---	---	None	---	None
118: Sparmo-----	B	Jan-Dec	---	---	---	---	None	---	None
Zer-----	B	Jan-Dec	---	---	---	---	None	---	None
119: Splittop-----	C	Jan-Dec	---	---	---	---	None	---	None
Atomic-----	B	Jan-Dec	---	---	---	---	None	---	None
120: Splittop-----	C	Jan-Dec	---	---	---	---	None	---	None
Coffee-----	B	Jan-Dec	---	---	---	---	None	---	None
121: Stan-----	B	Jan-Dec	---	---	---	---	None	---	None
122: Stan-----	B	Jan-Dec	---	---	---	---	None	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
122: Breitenbach-----	B	Jan-Dec	---	---	---	---	None	---	None
123: Stan, loamy fine sand surface-----	B	Jan-Dec	---	---	---	---	None	---	None
Stan-----	B	Jan-Dec	---	---	---	---	None	---	None
124: Starlite-----	B	Jan-Dec	---	---	---	---	None	---	None
125: Techick-----	B	Jan-Dec	---	---	---	---	None	---	None
Soelberg-----	B	Jan-Dec	---	---	---	---	None	---	None
126: Techick-----	B	Jan-Dec	---	---	---	---	None	---	None
Soelberg-----	B	Jan-Dec	---	---	---	---	None	---	None
Lesbut-----	A	Jan-Dec	---	---	---	---	None	---	None
127: Techicknot-----	B	Jan-Dec	---	---	---	---	None	---	None
Atom-----	B	Jan-Dec	---	---	---	---	None	---	None
Nargon-----	C	Jan-Dec	---	---	---	---	None	---	None
128: Tenno-----	D	Jan-Dec	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
128: Splittop-----	C	Jan-Dec	---	---	---	---	None	---	None
Lava flows-----	D	Jan-Dec	---	---	---	---	None	---	None
129: Tenno-----	D	Jan-Dec	---	---	---	---	None	---	None
Splittop-----	C	Jan-Dec	---	---	---	---	None	---	None
McCarey-----	C	Jan-Dec	---	---	---	---	None	---	None
130: Thornock-----	D	Jan-Dec	---	---	---	---	None	---	None
Portino-----	C	Jan-Dec	---	---	---	---	None	---	None
131: Thornock-----	D	Jan-Dec	---	---	---	---	None	---	None
Portino-----	C	Jan-Dec	---	---	---	---	None	---	None
132: Thosand-----	D	January	0-12	>72	0-12	Long	Frequent	---	None
		February	0-12	>72	0-12	Long	Frequent	---	None
		March	0-12	>72	0-12	Long	Frequent	---	None
		April	0-12	>72	0-12	Long	Frequent	Brief	Occasional
		May	0-12	>72	0-12	Long	Frequent	Brief	Occasional
		June	0-12	>72	0-12	Long	Frequent	Brief	Occasional
		July	0-12	>72	0-12	Long	Frequent	Brief	Occasional
		August	0-12	>72	0-12	Long	Frequent	---	None
		September	12-24	>72	---	---	None	---	None
		October	12-24	>72	---	---	None	---	None
		November	0-12	>72	0-12	Long	Frequent	---	None
		December	0-12	>72	0-12	Long	Frequent	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
132: Sancrane-----	D	January	0-12	>72	0-12	Long	Frequent	---	None
		February	0-12	>72	0-12	Long	Frequent	---	None
		March	0-12	>72	0-12	Long	Frequent	---	None
		April	0-12	>72	0-12	Long	Frequent	---	None
		May	0-12	>72	0-12	Long	Frequent	---	None
		June	0-12	>72	0-12	Long	Frequent	---	None
		July	0-12	>72	0-12	Long	Frequent	---	None
		August	12-24	>72	---	---	None	---	None
		September	12-24	>72	---	---	None	---	None
		October	12-24	>72	---	---	None	---	None
		November	0-12	>72	0-12	Long	Frequent	---	None
		December	0-12	>72	0-12	Long	Frequent	---	None
133: Truesdale-----	C	Jan-Dec	---	---	---	---	None	---	None
Minidoka-----	C	Jan-Dec	---	---	---	---	None	---	None
134: Vitale-----	C	Jan-Dec	---	---	---	---	None	---	None
Blackspar-----	D	Jan-Dec	---	---	---	---	None	---	None
135: Whitecloud-----	B	Jan-Dec	---	---	---	---	None	---	None
136: Whitecloud-----	B	Jan-Dec	---	---	---	---	None	---	None
Sanfelipe-----	B	Jan-Dec	---	---	---	---	None	---	None
137: Zeale-----	B	Jan-Dec	---	---	---	---	None	---	None



Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
137: Zeale, high precipitation-----	B	Jan-Dec	---	---	---	---	None	---	None
138: Zeale-----	B	Jan-Dec	---	---	---	---	None	---	None
Zeale, high precipitation-----	B	Jan-Dec	---	---	---	---	None	---	None
139: Zeale-----	B	Jan-Dec	---	---	---	---	None	---	None
Coalkiln-----	B	Jan-Dec	---	---	---	---	None	---	None
Jimbee-----	D	Jan-Dec	---	---	---	---	None	---	None
140: Zeebar, cool-----	B	Jan-Dec	---	---	---	---	None	---	None
Zeebar-----	B	Jan-Dec	---	---	---	---	None	---	None
141: Zeebar-----	B	Jan-Dec	---	---	---	---	None	---	None
Parvis-----	B	Jan-Dec	---	---	---	---	None	---	None
Howcan-----	B	Jan-Dec	---	---	---	---	None	---	None
142: Zer-----	B	Jan-Dec	---	---	---	---	None	---	None

## Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
143: Zer-----	B	Jan-Dec	---	---	---	---	None	---	None
144: Zer-----	B	Jan-Dec	---	---	---	---	None	---	None
145: Zer-----	B	Jan-Dec	---	---	---	---	None	---	None
146: Zer-----	B	Jan-Dec	---	---	---	---	None	---	None
Snowslide-----	B	Jan-Dec	---	---	---	---	None	---	None
147: Zer-----	B	Jan-Dec	---	---	---	---	None	---	None
Whiteknob-----	B	Jan-Dec	---	---	---	---	None	---	None
148: Mooretown-----	D	April	18-36	>72	---	---	None	Brief	Occasional
		May	18-36	>72	---	---	None	Brief	Occasional
		June	18-36	>72	---	---	None	---	None
		July	18-36	>72	---	---	None	---	None
Blackfoot-----	C	March	18-36	>72	---	---	None	---	None
		April	18-36	>72	---	---	None	---	None
		May	18-36	>72	---	---	None	---	None
		June	18-36	>72	---	---	None	---	None
		July	18-36	>72	---	---	None	---	None
		August	18-36	>72	---	---	None	---	None
		September	18-36	>72	---	---	None	---	None
		October	18-36	>72	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<i>In</i>	<i>In</i>	<i>In</i>				
148: Borah-----	A	April	12-24	>72	---	---	None	Brief	Occasional
		May	12-24	>72	---	---	None	Brief	Occasional
		June	12-24	>72	---	---	None	---	None
		July	12-24	>72	---	---	None	---	None
		August	12-24	>72	---	---	None	---	None
149: Drage, cool-----	B	Jan-Dec	---	---	---	---	None	---	None
150: Vitale-----	C	Jan-Dec	---	---	---	---	None	---	None
Blackspar-----	D	Jan-Dec	---	---	---	---	None	---	None

## Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
1: Arco-----	---	---	---	---	0	---	High	High	Low
2: Atom-----	---	---	---	---	0	---	Moderate	High	Low
3: Atom-----	---	---	---	---	0	---	Moderate	High	Low
4: Atom-----	---	---	---	---	0	---	Moderate	High	Low
Splittop-----	Lithic bedrock	20-40	---	Indurated	0	---	Low	High	Low
5: Bealand-----	---	---	---	---	0	---	Moderate	High	Low
Zeale-----	High carbonates	8-15	---	Noncemented	0	---	Moderate	High	Low
6: Blackfoot-----	---	---	---	---	0	---	High	High	Low
7: Bluedome-----	Duripan	20-40	2-16	Indurated	0	---	Moderate	High	Low
8: Bluedome-----	Duripan	20-40	2-16	Indurated	0	---	Moderate	High	Low
McCaleb-----	High carbonates	40-50	---	Noncemented	0	---	Moderate	High	Low
9: Bockston-----	---	---	---	---	0	---	Moderate	High	Low
10: Breitenbach-----	Strongly contrasting textural stratification	30-60	---	Noncemented	0	---	Moderate	High	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
11: Breitenbach-----	Strongly contrasting textural stratification	30-60	---	Noncemented	0	---	Moderate	High	Low
Stan-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Low	Low	Low
12: Buist-----	---	---	---	---	0	---	Moderate	Moderate	Low
13: Bunting-----	Strongly contrasting textural stratification	14-24	---	Noncemented	0	---	Low	High	Low
14: Coffee-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	High	Low
15: Coffee-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	High	Low
Nargon-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
16: Coffee-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	High	Low
Nargon-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
Atom-----	---	---	---	---	0	---	Moderate	High	Low
17: Cronks-----	---	---	---	---	0	---	Low	High	Low
Dacont-----	---	---	---	---	0	---	Moderate	High	Low
18: Crooked Creek-----	---	---	---	---	0	---	Moderate	High	Low
19: Cryoborolls-----	Lithic bedrock	20-80	---	Indurated	0	---	Moderate	Moderate	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
19: Rubble land-----	---	---	---	---	0	---	---	---	---
Rock outcrop-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
20: Darlington-----	Strongly contrasting textural stratification	20-40	---	Noncemented	0	---	Moderate	High	Low
Lesbut-----	Strongly contrasting textural stratification	10-20	---	Noncemented	0	---	Low	High	Low
21: Denied access-----	---	---	---	---	---	---	---	---	---
22: Deuce-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Nargon-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
Lava flows-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
23: Deuce-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Nargon-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
Lava flows-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
24: Dickeypeak-----	---	---	---	---	0	---	High	High	High
Bigrant-----	---	---	---	---	0	---	High	High	High
25: Donkehill-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
26: Dredge-----	---	---	---	---	0	---	Moderate	Moderate	Low
27: Elbow-----	Duripan	20-30	3-9	Indurated	0	---	Moderate	High	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>In</i>	<i>In</i>		<i>In</i>	<i>In</i>			
28: Fallert-----	Strongly contrasting textural stratification	19-30	---	Noncemented	0	---	Low	High	Low
29: Fallert, dry-----	Strongly contrasting textural stratification	19-30	---	Noncemented	0	---	Low	High	Low
30: Fandow-----	Duripan	10-19	1-9	Very strongly cemented	0	---	Low	High	Low
31: Fulwider, high precipitation-----	Duripan	10-20	5-13	Indurated	0	---	Moderate	High	Low
Fulwider, low precipitation-----	Duripan	10-20	3-13	Indurated	0	---	Moderate	High	Low
Fulwider-----	Duripan	10-20	5-13	Indurated	0	---	Moderate	High	Low
32: Goosebury, high precipitation-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Low	High	Low
33: Goosebury-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Low	High	Low
34: Goosebury, low precipitation-----	---	---	---	---	0	---	Low	High	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
34: Goosebury, high precipitation-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Low	High	Low
35: Hagenbarth-----	---	---	---	---	0	---	Moderate	Moderate	Low
Howcan-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Moderate	Low
Jonda-----	---	---	---	---	0	---	Moderate	High	Low
36: Hal-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	High	Moderate	Moderate
Moonville-----	---	---	---	---	0	---	Moderate	High	Low
37: Hondoho-----	---	---	---	---	0	---	Moderate	Moderate	Low
38: Howcan-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Moderate	Low
Hutchley-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	Lithic bedrock	0-0	---	Indurated	---	---	---	---	---
39: Howcan-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Moderate	Low
Zeebar-----	---	---	---	---	0	---	Moderate	Moderate	Low
Hutchley-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
40: Huddle-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Moderate	Low
Moonville-----	---	---	---	---	0	---	Moderate	High	Low
41: Ike-----	Lithic bedrock	10-20	---	Indurated	0	---	Low	High	Low



## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
41: Rock outcrop-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
Jimbee-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
42: Ike-----	Lithic bedrock	10-20	---	Indurated	0	---	Low	High	Low
Simeroi-----	High carbonates	2-15	---	Noncemented	0	---	Low	High	Low
Rock outcrop-----	Lithic bedrock	0-0	---	Indurated	---	---	---	---	---
43: Inel-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Matheson-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
44: Inel-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Slide-----	High carbonates	5-15	---	Noncemented	0	---	Low	High	Low
Rock outcrop-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
45: Jimbee-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Rock outcrop-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
Ike-----	Lithic bedrock	10-20	---	Indurated	0	---	Low	High	Low
46: Jimbee-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Skibo-----	High carbonates	2-15	---	Noncemented	0	---	Moderate	High	Low
Ike-----	Lithic bedrock	10-20	---	Indurated	0	---	Low	High	Low
47: Justesen-----	---	---	---	---	0	---	Moderate	High	Low
Drage-----	---	---	---	---	0	---	Moderate	High	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
48: Ketchum-----	---	---	---	---	0	---	Moderate	Moderate	Low
Povey-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Moderate	Low
49: Kimama-----	---	---	---	---	0	---	Moderate	High	Low
50: Klug-----	---	---	---	---	0	---	Moderate	Moderate	Low
51: Klug-----	---	---	---	---	0	---	Moderate	Moderate	Low
Parvis-----	---	---	---	---	0	---	Moderate	Moderate	Low
52: Lag-----	---	---	---	---	0	---	Moderate	Moderate	Low
53: Lavacreek-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Moderate	Moderate
Dollarhide-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	Moderate	Low
54: Lavacreek-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Moderate	Moderate
Dollarhide-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	Moderate	Low
Grassycone-----	Abrupt textural change	40-60	---	Noncemented	0	---	Moderate	Moderate	Moderate
55: Lavacreek-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Moderate	Moderate
Vitale-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Moderate	Low
56: Lava flows-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
57: Lava flows-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
Cinderhurst-----	Lithic bedrock	1-10	---	Indurated	0	---	Moderate	Moderate	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
58: Lava flows-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
Pingree-----	Lithic bedrock	5-10	---	Indurated	0	---	Moderate	High	Low
59: Leatherman-----	Duripan	9-20	5-15	Indurated	0	---	Moderate	High	Low
Adek, dry-----	High carbonates	2-7	---	Noncemented	0	---	Moderate	High	Low
Adek-----	High carbonates	2-7	---	Noncemented	0	---	Moderate	High	Low
60: Leatherman-----	Duripan	9-20	5-15	Indurated	0	---	Moderate	High	Low
Bluedome-----	Duripan	20-40	2-16	Indurated	0	---	Moderate	High	Low
61: Malm-----	Lithic bedrock	20-40	---	Indurated	0	---	Low	High	Low
Bondfarm-----	Lithic bedrock	10-20	---	Indurated	0	---	Low	Moderate	Low
Matheson-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	High	Low
62: Matheson-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	High	Low
Grassy Butte-----	---	---	---	---	0	---	Low	High	Low
63: McCain-----	Lithic bedrock	20-40	---	Indurated	0	---	Low	High	Low
Thornock-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
64: McCarey-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
Beartrap-----	Lithic bedrock	40-60	---	Indurated	0	---	Low	High	Low
65: McCarey-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
Beartrap-----	Lithic bedrock	40-60	---	Indurated	0	---	Low	High	Low
66: McCarey-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
66: Beartrap-----	Lithic bedrock	40-60	---	Indurated	0	---	Low	High	Low
Rock outcrop-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
67: McCarey-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
Molyneux-----	---	---	---	---	0	---	Moderate	Moderate	Low
Lava flows-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
68: McCarey-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
Splittop-----	Lithic bedrock	20-40	---	Indurated	0	---	Low	High	Low
Lava flows-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
69: McCarey-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
Vickton-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	High	Low
Lava flows-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
70: McClenden-----	Duripan	40-55	1-5	Indurated	0	---	Low	High	Low
	Lithic bedrock	45-60	---	Indurated					
Thornock-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
71: Medicine-----	Strongly contrasting textural stratification	20-40	---	Noncemented	0	---	Moderate	High	Low
Whiteknob-----	Strongly contrasting textural stratification	10-20	---	Noncemented	0	---	Low	High	Low
72: Menan-----	---	---	---	---	0	---	Moderate	High	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
73: Mogg-----	Lithic bedrock	12-20	---	Indurated	0	---	Moderate	High	Low
Shagel-----	Lithic bedrock	12-20	---	Indurated	0	---	Moderate	High	Low
74: Mooretown-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Moderate	High	Low
Borah-----	Strongly contrasting textural stratification	8-14	---	Noncemented	0	---	Low	High	Low
75: Mooretown, drained----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Moderate	High	Low
Borco-----	Strongly contrasting textural stratification	10-20	---	Noncemented	0	---	Low	High	Low
76: Nargon-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
Atom-----	---	---	---	---	0	---	Moderate	High	Low
Techicknot-----	---	---	---	---	0	---	Moderate	High	Low
77: Nargon-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
Deuce-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Lava flows-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
78: Nitchly-----	High carbonates	20-30	---	Noncemented	0	---	Low	High	Low
79: Nurkey-----	---	---	---	---	0	---	Moderate	High	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
79: Dacont-----	---	---	---	---	0	---	Moderate	High	Low
80: Nurkey-----	---	---	---	---	0	---	Moderate	High	Low
Dacont-----	---	---	---	---	0	---	Moderate	High	Low
81: Nurkey-----	---	---	---	---	0	---	Moderate	High	Low
Nurkey, low precipitation-----	---	---	---	---	0	---	Moderate	High	Low
82: Calclids-----	Lithic bedrock	20-80	---	Indurated	0	---	Moderate	High	Low
Rubble land-----	---	---	---	---	0	---	---	---	---
Rock outcrop-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
83: Packmo-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Moderate	High	Low
Snowslide-----	---	---	---	---	0	---	Low	High	Low
84: Paint-----	Duripan	10-20	1-6	Strongly cemented	0	---	Moderate	High	Low
Fallert-----	Strongly contrasting textural stratification	19-30	---	Noncemented	0	---	Low	High	Low
85: Paint-----	Duripan	10-20	1-6	Strongly cemented	0	---	Moderate	High	Low
Whitecloud-----	Strongly contrasting textural stratification	10-20	---	Noncemented	0	---	Low	High	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
86: Pancheri-----	---	---	---	---	0	---	Moderate	High	Low
87: Pancheri-----	---	---	---	---	0	---	Moderate	High	Low
Polatis-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
88: Playas-----	---	---	---	---	0	---	---	---	---
89: Polatis-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
90: Portino-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
Thornock-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
91: Riverlost-----	---	---	---	---	0	---	Moderate	High	Low
Frymire-----	---	---	---	---	0	---	Moderate	Moderate	Low
92: Riverlost-----	---	---	---	---	0	---	Moderate	High	Low
Grouseville-----	---	---	---	---	0	---	Moderate	High	Low
93: Riverlost-----	---	---	---	---	0	---	Moderate	High	Low
Soen-----	---	---	---	---	0	---	Moderate	High	Low
94: Rubble land-----	---	---	---	---	0	---	---	---	---
Milligan-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Moderate	Low
95: Sanfelipe-----	High carbonates	2-15	---	Noncemented	0	---	Moderate	High	Low
96: Sanfelipe-----	High carbonates	2-15	---	Noncemented	0	---	Moderate	High	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>In</i>	<i>In</i>		<i>In</i>	<i>In</i>			
97: Sanfelipe-----	High carbonates	2-15	---	Noncemented	0	---	Moderate	High	Low
McCaleb-----	High carbonates	5-15	---	Noncemented	0	---	Moderate	High	Low
98: Sanfelipe-----	High carbonates	2-15	---	Noncemented	0	---	Moderate	High	Low
Simeroi-----	High carbonates	2-15	---	Noncemented	0	---	Low	High	Low
99: Simeroi-----	High carbonates	2-15	---	Noncemented	0	---	Low	High	Low
100: Simeroi-----	High carbonates	2-15	---	Noncemented	0	---	Low	High	Low
101: Simeroi-----	High carbonates	2-15	---	Noncemented	0	---	Low	High	Low
102: Simeroi, cool-----	High carbonates	2-15	---	Noncemented	0	---	Low	High	Low
103: Simeroi, dry-----	High carbonates	2-15	---	Noncemented	0	---	Low	High	Low
104: Simeroi-----	High carbonates	2-15	---	Noncemented	0	---	Low	High	Low
Paint-----	Duripan	10-20	1-6	Strongly cemented	0	---	Moderate	High	Low
105: Simeroi, dry-----	High carbonates	2-15	---	Noncemented	0	---	Low	High	Low
Simeroi-----	High carbonates	2-15	---	Noncemented	0	---	Low	High	Low
106: Simeroi-----	High carbonates	2-15	---	Noncemented	0	---	Low	High	Low
Sparmo-----	---	---	---	---	0	---	Low	High	High
107: Simeroi-----	High carbonates	2-15	---	Noncemented	0	---	Low	High	Low
Slide-----	High carbonates	5-18	---	Noncemented	0	---	Low	High	Low
McCaleb-----	High carbonates	5-15	---	Noncemented	0	---	Moderate	High	Low



## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
108: Simeroi-----	High carbonates	2-15	---	Noncemented	0	---	Low	High	Low
Bealand-----	---	---	---	---	0	---	Moderate	High	Low
109: Slide-----	High carbonates	5-18	---	Noncemented	0	---	Low	High	Low
110: Snowslide-----	---	---	---	---	0	---	Low	High	Low
111: Snowslide-----	---	---	---	---	0	---	Low	High	Low
112: Snowslide-----	---	---	---	---	0	---	Low	High	Low
Zer-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Low	High	Low
113: Snowslide-----	---	---	---	---	0	---	Low	High	Low
Zer-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Low	High	Low
Snowslide, low precipitation-----	---	---	---	---	0	---	Low	High	Low
114: Soen-----	---	---	---	---	0	---	Moderate	High	Low
115: Soen-----	---	---	---	---	0	---	Moderate	High	Low
Justesen-----	---	---	---	---	0	---	Moderate	High	Low
116: Sparmo-----	---	---	---	---	0	---	Low	High	High
117: Sparmo-----	---	---	---	---	0	---	Low	High	High

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
117: Bluedome-----	Duripan	20-40	2-16	Indurated	0	---	Moderate	High	Low
118: Sparmo-----	---	---	---	---	0	---	Low	High	High
Zer-----	Strongly contrasting textural stratification	20-40	---	Noncemented	0	---	Low	High	Low
119: Splittop-----	Lithic bedrock	20-40	---	Indurated	0	---	Low	High	Low
Atomic-----	Lithic bedrock	40-60	---	Indurated	0	---	Low	High	Low
120: Splittop-----	Lithic bedrock	20-40	---	Indurated	0	---	Low	High	Low
Coffee-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	High	Low
121: Stan-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Moderate	Moderate	Low
122: Stan-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Moderate	Moderate	Low
Breitenbach-----	Strongly contrasting textural stratification	30-60	---	Noncemented	0	---	Moderate	High	Low
123: Stan, loamy fine sand surface-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Moderate	Moderate	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
123: Stan-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Moderate	Moderate	Low
124: Starlite-----	---	---	---	---	0	---	High	Moderate	Low
125: Techick-----	Strongly contrasting textural stratification	40-50	---	Noncemented	0	---	Moderate	High	Low
Soelberg-----	Strongly contrasting textural stratification	30-40	---	Noncemented	0	---	Moderate	Moderate	Low
126: Techick-----	Strongly contrasting textural stratification	40-50	---	Noncemented	0	---	Moderate	High	Low
Soelberg-----	Strongly contrasting textural stratification	30-40	---	Noncemented	0	---	Moderate	Moderate	Low
Lesbut-----	Strongly contrasting textural stratification	10-20	---	Noncemented	0	---	Low	High	Low
127: Techicknot-----	---	---	---	---	0	---	Moderate	High	Low
Atom-----	---	---	---	---	0	---	Moderate	High	Low
Nargon-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
128: Tenno-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
128: Splittop-----	Lithic bedrock	20-40	---	Indurated	0	---	Low	High	Low
Lava flows-----	Lithic bedrock	0-0	---	Indurated	0	---	---	---	---
129: Tenno-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Splittop-----	Lithic bedrock	20-40	---	Indurated	0	---	Low	High	Low
McCarey-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
130: Thornock-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Portino-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
131: Thornock-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
Portino-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	High	Low
132: Thosand-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	High	High	High
Sancrane-----	Strongly contrasting textural stratification	20-35	---	Noncemented	0	---	High	High	Low
133: Truesdale-----	Duripan Lithic bedrock	20-40 50-60	4-12 ---	Weakly cemented Indurated	0	---	Low	High	Low
Minidoka-----	Duripan	20-40	2-17	Indurated	0	---	Low	High	Low
134: Vitale-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Moderate	Low
Blackspar-----	Lithic bedrock	10-20	---	Indurated	0	---	Low	Moderate	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
135: Whitecloud-----	Strongly contrasting textural stratification	20-25	---	Noncemented	0	---	Low	High	Low
136: Whitecloud-----	Strongly contrasting textural stratification	20-25	---	Noncemented	0	---	Low	High	Low
Sanfelipe-----	High carbonates	2-15	---	Noncemented	0	---	Moderate	High	Low
137: Zeale-----	High carbonates	8-15	---	Noncemented	0	---	Moderate	High	Low
Zeale, high precipitation-----	High carbonates	8-15	---	Noncemented	0	---	Moderate	High	Low
138: Zeale-----	High carbonates	8-15	---	Noncemented	0	---	Moderate	High	Low
Zeale, high precipitation-----	High carbonates	8-15	---	Noncemented	0	---	Moderate	High	Low
139: Zeale-----	High carbonates	8-15	---	Noncemented	0	---	Moderate	High	Low
Coalkiln-----	High carbonates	2-15	---	Noncemented	0	---	Moderate	High	Low
Jimbee-----	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	High	Low
140: Zeebar, cool-----	---	---	---	---	0	---	Moderate	Moderate	Low
Zeebar-----	---	---	---	---	0	---	Moderate	Moderate	Low
141: Zeebar-----	---	---	---	---	0	---	Moderate	Moderate	Low
Parvis-----	---	---	---	---	0	---	Moderate	Moderate	Low
Howcan-----	Lithic bedrock	40-60	---	Indurated	0	---	Moderate	Moderate	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
142: Zer-----	---	---	---	---	0	---	Low	High	Low
143: Zer-----	Strongly contrasting textural stratification	20-40	---	Noncemented	0	---	Low	High	Low
144: Zer-----	Strongly contrasting textural stratification	20-40	---	Noncemented	0	---	Moderate	High	Low
145: Zer-----	Strongly contrasting textural stratification	20-40	---	Noncemented	0	---	Moderate	High	Low
146: Zer-----	---	---	---	---	0	---	Low	High	Low
Snowslide-----	---	---	---	---	0	---	Low	High	Low
147: Zer-----	Strongly contrasting textural stratification	20-40	---	Noncemented	0	---	Low	High	Low
Whiteknob-----	Strongly contrasting textural stratification	10-20	---	Noncemented	0	---	Low	High	Low
148: Mooretown-----	Strongly contrasting textural stratification	40-60	---	Noncemented	0	---	Moderate	High	Low
Blackfoot-----	---	---	---	---	0	---	High	High	Low

## Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>In</i>	<i>In</i>		<i>In</i>	<i>In</i>			
148: Borah-----	Strongly contrasting textural stratification	8-14	---	Noncemented	0	---	Low	High	Low
149: Drage, cool-----	---	---	---	---	0	---	Moderate	High	Low
150: Vitale-----	Lithic bedrock	20-40	---	Indurated	0	---	Moderate	Moderate	Low
Blackspar-----	Lithic bedrock	10-20	---	Indurated	0	---	Low	Moderate	Low

## Taxonomic Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Adek-----	Loamy-skeletal, carbonatic Typic Cryochrepts
Arco-----	Fine-silty, mixed, frigid Aquic Calcixerolls
Atom-----	Coarse-silty, mixed, frigid Sodic Xeric Haplocalcids
Atomic-----	Coarse-loamy, mixed, frigid Xeric Haplocalcids
Bealand-----	Loamy-skeletal, carbonatic Typic Cryochrepts
Beartrap-----	Coarse-loamy, mixed, frigid Aridic Calcixerolls
*Bigrant-----	Fine-loamy, mixed, calcareous Typic Cryaquepts
Blackfoot-----	Fine-loamy, mixed, frigid Fluvaquentic Haploxerolls
Blackspar-----	Loamy-skeletal, mixed, frigid Lithic Mollic Haploxeralfs
*Bluedome-----	Coarse-loamy, carbonatic Duric Xeric Petrocryids
Bockston-----	Fine-loamy, mixed, frigid Aridic Calcixerolls
Bondfarm-----	Loamy, mixed, frigid Lithic Xeric Haplocalcids
Borah-----	Sandy-skeletal, mixed, frigid Typic Calciaquolls
Borco-----	Sandy-skeletal, mixed, frigid Torrifluventic Haploxerolls
Breitenbach-----	Loamy-skeletal, mixed, frigid Calcic Haploxerolls
Buist-----	Loamy-skeletal, mixed, frigid Calcic Haploxerolls
Bunting-----	Sandy-skeletal, mixed, frigid Calcic Haploxerolls
Calcid-----	Calcid
Cinderhurst-----	Medial-skeletal, frigid Lithic Vitrikerands
Coalkiln-----	Loamy-skeletal, carbonatic Calcic Pachic Cryoborolls
Coffee-----	Coarse-loamy, mixed, frigid Sodic Xeric Haplocalcids
Cronks-----	Clayey-skeletal, montmorillonitic, frigid Aridic Calcic Argixerolls
*Crooked Creek-----	Fine, montmorillonitic, calcareous, frigid Cumulic Endoaquolls
Cryoborolls-----	Cryoborolls
Dacont-----	Loamy-skeletal, mixed, frigid Aridic Calcic Argixerolls
Darlington-----	Loamy-skeletal, mixed, frigid Calcic Haploxerolls
Deuce-----	Loamy, mixed, frigid Lithic Xeric Haplocalcids
Dickeypeak-----	Coarse-loamy, mixed, frigid Aquic Haplocalcids
Dollarhide-----	Loamy-skeletal, mixed Lithic Cryoborolls
Donkehill-----	Loamy-skeletal, mixed Argic Lithic Cryoborolls
Drage-----	Loamy-skeletal, mixed, frigid Calcic Argixerolls
Dredge-----	Fine-loamy, mixed, frigid Typic Haploxerolls
Elbow-----	Loamy-skeletal, mixed, frigid Haploduridic Durixerolls
Fallert-----	Sandy-skeletal, carbonatic, frigid Durinodic Xeric Haplocalcids
*Fandow-----	Loamy-skeletal, carbonatic, shallow Duric Xeric Petrocryids
Frymire-----	Clayey-skeletal, montmorillonitic Argic Vertic Cryoborolls
Fulwider-----	Loamy-skeletal, mixed, frigid, shallow Xeric Haplodurids
Goosebury-----	Loamy-skeletal, mixed Xeric Calcicryids
Grassy Butte-----	Sandy, mixed, frigid Typic Haplocalcids
Grassycone-----	Medial Xeric Vitricryands
Grouseville-----	Fine, montmorillonitic Argic Pachic Cryoborolls
Hagenbarth-----	Fine-loamy, mixed Argic Pachic Cryoborolls
Hal-----	Medial Xeric Haplocryands
Hondoho-----	Loamy-skeletal, mixed, frigid Calcic Haploxerolls
Howcan-----	Loamy-skeletal, mixed, frigid Typic Argixerolls
Huddle-----	Medial, frigid Typic Vitrikerands
Hutchley-----	Loamy-skeletal, mixed, frigid Lithic Argixerolls
Ike-----	Loamy-skeletal, carbonatic, frigid Lithic Xeric Haplocalcids
Inel-----	Loamy-skeletal, carbonatic, frigid Lithic Haplocalcids
Jimbee-----	Loamy-skeletal, carbonatic Lithic Cryoborolls
Jonda-----	Loamy-skeletal, mixed Mollic Cryoboralfs
Justesen-----	Fine-loamy, mixed, frigid Calcic Argixerolls
Ketchum-----	Loamy-skeletal, mixed Typic Cryochrepts
Kimama-----	Fine-silty, mixed, mesic Aridic Calcic Argixerolls
Klug-----	Loamy-skeletal, mixed Typic Cryoborolls
Lag-----	Loamy-skeletal, mixed Typic Cryoborolls
Lavacreek-----	Medial-skeletal Xeric Vitricryands
Leatherman-----	Loamy-skeletal, carbonatic, shallow Duric Xeric Petrocryids
Lesbut-----	Sandy-skeletal, mixed, frigid Calcic Haploxerolls
Malm-----	Coarse-loamy, mixed, frigid Xeric Haplocalcids



## Taxonomic Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Matheson-----	Coarse-loamy, mixed, frigid Xeric Haplocalcids
McCain-----	Fine-silty, mixed, mesic Petronodic Calciargids
McCaleb-----	Coarse-loamy, carbonatic, frigid Xeric Haplocalcids
McCarey-----	Fine-loamy, mixed, frigid Calcic Argixerolls
McClenden-----	Coarse-loamy, mixed, mesic Xeric Haplocambids
Medicine-----	Fine-loamy over sandy or sandy-skeletal, mixed, frigid Xeric Haplocalcids
Menan-----	Fine-silty, mixed, frigid Xeric Calciargids
Milligan-----	Loamy-skeletal over fragmental, mixed, frigid Typic Haploxerolls
Minidoka-----	Coarse-silty, mixed, mesic Xeric Haplodurids
Mogg-----	Loamy-skeletal, mixed, frigid Lithic Xeric Haplocalcids
Molyneux-----	Fine-loamy, mixed, frigid Ultic Argixerolls
Moonville-----	Medial, frigid Typic Vitrixerands
Mooretown-----	Coarse-loamy, mixed, frigid Cumulic Haploxerolls
Nargon-----	Coarse-loamy, mixed, frigid Xeric Haplocalcids
Nitchly-----	Loamy-skeletal, carbonatic Xeric Calcicryids
Nurkey-----	Loamy-skeletal, mixed Argic Cryoborolls
Packmo-----	Loamy-skeletal, mixed, frigid Xeric Haplocalcids
Paint-----	Loamy-skeletal, carbonatic, frigid, shallow Xerochreptic Haplodurids
Pancheri-----	Coarse-silty, mixed, frigid Xeric Haplocalcids
Parvis-----	Loamy-skeletal, mixed Cryic Pachic Paleborolls
Pingree-----	Loamy, mixed, nonacid, frigid Lithic Xeric Torriorthents
Polatis-----	Coarse-silty, mixed, frigid Xeric Haplocalcids
Portino-----	Coarse-silty, mixed, mesic Xeric Haplocalcids
Povey-----	Loamy-skeletal, mixed Pachic Cryoborolls
Riverlost-----	Fine, montmorillonitic, frigid Calcic Haploxeralfs
San crane-----	Fine-loamy over sandy or sandy-skeletal, mixed, calcareous Typic Cryaquepts
San Felipe-----	Loamy-skeletal, carbonatic, frigid Aridic Calcixerolls
Shagel-----	Loamy-skeletal, mixed, frigid Lithic Calcixerolls
Simeroi-----	Loamy-skeletal, carbonatic, frigid Xeric Haplocalcids
Skibo-----	Loamy-skeletal, carbonatic Calcic Cryoborolls
Slide-----	Loamy-skeletal, carbonatic, frigid Typic Haplocalcids
Snowslide-----	Loamy-skeletal, mixed, frigid Typic Haplocalcids
Soelberg-----	Fine-loamy over sandy or sandy-skeletal, mixed, frigid Aridic Calcic Argixerolls
Soen-----	Fine, montmorillonitic, frigid Calcic Argixerolls
Sparmo-----	Coarse-loamy, mixed, frigid Xeric Haplocalcids
Splittop-----	Coarse-silty, mixed, frigid Xeric Haplocalcids
Stan-----	Coarse-loamy, mixed, frigid Aridic Calcixerolls
Starlite-----	Coarse-silty, carbonatic, frigid Petronodic Haplocalcids
Techick-----	Fine-loamy, mixed, frigid Aridic Calcic Argixerolls
Techicknot-----	Fine-loamy, mixed, frigid Aridic Calcic Argixerolls
Tenno-----	Loamy, mixed, frigid Lithic Xeric Haplocambids
Thornock-----	Loamy, mixed, mesic Lithic Xeric Haplocalcids
Thosand-----	Fine-loamy, mixed, calcareous Calcic Cryaquolls
Truesdale-----	Coarse-loamy, mixed, mesic Xerochreptic Haplodurids
Vickton-----	Fine-loamy, mixed, frigid Calcic Argixerolls
Vitale-----	Loamy-skeletal, mixed, frigid Typic Argixerolls
Whitecloud-----	Sandy-skeletal, carbonatic, frigid Xeric Haplocalcids
Whiteknob-----	Sandy-skeletal, mixed, frigid Xeric Haplocalcids
Zeale-----	Loamy-skeletal, carbonatic Calcic Cryoborolls
Zeebar-----	Loamy-skeletal, mixed Argic Cryoborolls
Zer-----	Loamy-skeletal, mixed, frigid Xeric Haplocalcids

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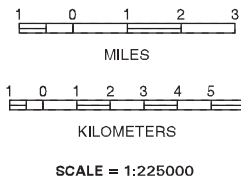
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SECTIONALIZED TOWNSHIP												
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INDEX TO MAP SHEETS  
BUTTE COUNTY AREA, IDAHO  
PARTS OF BUTTE AND BINGHAM COUNTIES



SOIL LEGEND

The map symbols are a sequential numeric number and have no connotation to soil series or slope class.

SYMBOL	NAME	SYMBOL	NAME
1	Arco silt loam, 0 to 2 percent slopes	76	Nargon-Atom-Techicknot complex, 0 to 20 percent slopes
2	Atom silt loam, 1 to 3 percent slopes	77	Nargon-Deuce-Lava flows complex, 0 to 20 percent slopes
3	Atom silt loam, 3 to 8 percent slopes	78	Nitchly gravelly loam, 15 to 50 percent slopes
4	Atom-Splittop complex, 1 to 4 percent slopes	79	Nurkey-Dacont association, 5 to 3 5 percent slopes
5	Bealand-Zeale complex, 10 to 70 percent slopes	80	Nurkey-Dacont association, 35 to 60 percent slopes
6	Blackfoot loam, 0 to 2 percent slopes	81	Nurkey complex, 5 to 35 percent slopes
7	Bluedome loam, 2 to 6 percent slopes	82	Calcids-Rubble land-Rock outcrop complex, 30 to 80 percent slopes
8	Bluedome-McCaleb complex, 2 to 6 percent slopes	83	Packmo-Snowslide complex, 8 to 12 percent slopes
9	Bockston silt loam, 0 to 4 percent slopes	84	Paint-Fallert complex, 4 to 12 percent slopes
10	Breitenbach gravelly loam, 1 to 4 percent slopes	85	Paint-Whitecloud complex, 1 to 4 percent slopes
11	Breitenbach-Stan complex, 1 to 4 percent slopes	86	Pancheri silt loam, 2 to 8 percent slopes
12	Buist gravelly loam, 2 to 12 percent slopes	87	Pancheri-Polatis complex, 2 to 12 percent slopes
13	Bunting gravelly loam, 0 to 2 percent slopes	88	Playas, 0 to 1 percent slopes
14	Coffee silt loam, 1 to 4 percent slopes	89	Polatis silt loam, 0 to 4 percent slopes
15	Coffee-Nargon complex, 4 to 20 percent slopes	90	Portino-Thornock complex, 1 to 4 percent slopes
16	Coffee-Nargon-Atom complex, 2 to 12 percent slopes	91	Riverlost-Frymire complex, 5 to 50 percent slopes
17	Cronks-Dacont complex, 25 to 60 percent slopes	92	Riverlost-Grouseville complex, 5 to 60 percent slopes
18	Crooked Creek silt loam, 0 to 2 percent slopes	93	Riverlost-Soen complex, 5 to 40 percent slopes
19	Cryoborolls-Rubble land-Rock outcrop complex, 30 to 80 percent slopes	94	Rubble land-Milligan complex, 60 to 75 percent slopes
20	Darlington-Lesbut complex, 1 to 4 percent slopes	95	Sanfelipe gravelly loam, 4 to 8 percent slopes
21	Denied access	96	Sanfelipe gravelly loam, 8 to 12 percent slopes
22	Deuce-Nargon-Lava flows complex, 2 to 12 percent slopes	97	Sanfelipe-McCaleb complex, 0 to 4 percent slopes
23	Deuce-Nargon-Lava flows complex, 12 to 20 percent slopes	98	Sanfelipe-Simeroi complex, 1 to 4 percent slopes
24	Dickeypeak-Bigrant complex, 0 to 4 percent slopes	99	Simeroi gravelly silt loam, 2 to 5 percent slopes
25	Donkehill very gravelly loam, 20 to 50 percent slopes	100	Simeroi gravelly silt loam, 5 to 12 percent slopes
26	Dredge loam, 1 to 5 percent slopes	101	Simeroi gravelly silt loam, 8 to 12 percent slopes
27	Elbow gravelly loam, 1 to 4 percent slopes	102	Simeroi gravelly silt loam, cool, 2 to 25 percent slopes
28	Fallert gravelly loam, 2 to 8 percent slopes	103	Simeroi gravelly silt loam, dry, 10 to 30 percent slopes
29	Fallert gravelly loam, dry, 2 to 6 precent slopes	104	Simeroi-Paint complex, 2 to 8 percent slopes
30	Fandow gravelly loam, 2 to 6 precent slopes	105	Simeroi complex, 5 to 30 percent slopes
31	Fulwider complex, 2 to 25 percent slopes	106	Simeroi-Sparmo complex, 4 to 12 percent slopes
32	Goosebury very gravelly loam, high precipitation, 5 to 20 percent slopes	107	Simeroi-Slide-McCaleb complex, 1 to 6 percent slopes
33	Goosebury very gravelly loam, 2 to 8 percent slopes	108	Simeroi-Bealand association, 30 to 70 percent slopes
34	Goosebury complex, 10 to 35 percent slopes	109	Slide gravelly loam, 2 to 10 percent slopes
35	Hagenbarth-Howcan-Jonda association, 5 to 45 percent slopes	110	Snowslide gravelly loam, 2 to 10 percent sloeops
36	Hal-Moonville association, 15 to 60 percent slopes	111	Snowslide gravelly loam, 5 to 20 percent slopes
37	Hondoho gravelly loam, 4 to 30 percent slopes	112	Snowslide-Zer complex, 1 to 5 percent slopes
38	Howcan-Hutchley-Rock outcrop complex, 15 to 60 percent slopes	113	Snowslide-Zer complex, 5 to 35 percent slopes
39	Howcan-Zeebar-Hutchley association, 15 to 60 percent slopes	114	Soen clay loam, 0 to 4 percent slopes
40	Huddle-Moonville complex, 2 to 12 percent slopes	115	Soen-Justesen complex, 4 to 12 percent slopes
41	Ike-Rock outcrop-Jimbee association, 10 to 80 percent slopes	116	Sparmo silt loam, 1 to 4 percent slopes
42	Ike-Simeroi-Rock outcrop complex, 25 to 60 percent slopes	117	Sparmo-Bluedome complex, 1 to 4 percent slopes
43	Inel-Matheson-Rock outcrop complex, 10 to 45 percent slopes	118	Sparmo-Zer complex, 1 to 5 percent slopes
44	Inel-Slide-Rock outcrop complex, 10 to 45 percent slopes	119	Splittop-Atomic complex, 0 to 8 percent slopes
45	Jimbee-Rock outcrop-Ike association, 10 to 90 percent slopes	120	Splittop-Coffee complex, 0 to 8 percent slopes
46	Jimbee-Skibo-Ike association, 20 to 60 percent slopes	121	Stan sandy loam, 1 to 4 percent slopes
47	Justesen-Drage complex, 1 to 20 percent slopes	122	Stan-Breitenbach complex, 1 to 4 percent slopes
48	Ketchum-Povey complex, 30 to 60 percent, 100 to 120 percent slopes	123	Stan complex, 1 to 4 percent slopes
49	Kimama silt loam, 0 to 2 percent slopes	124	Starlite loam, 0 to 4 percent slopes
50	Klug very gravelly loam, 5 to 15 percent slopes	125	Techick-Soelberg complex, 4 to 8 percent slopes
51	Klug-Parvis complex, 20 to 60 percent slopes	126	Techick-Soelberg-Lesbut complex, 0 to 4 percent slopes
52	Lag gravelly loam, 40 to 70 percent slopes	127	Techicknot-Atom-Nargon complex, 0 to 12 percent slopes
53	Lavacreek-Dollarhide complex, 15 to 60 percent slopes	128	Tenno-Splittop-Lava flows complex, 4 to 8 percent slopes
54	Lavacreek-Dollarhide-Grassycone complex, 30 to 60 percent slopes	129	Tenno-Splittop-McCarey complex, 1 to 4 percent slopes
55	Lavacreek-Vitale association, 30 to 60 percent slopes	130	Thornock-Portino complex, 4 to 8 percent slopes
56	Lava flows	131	Thornock-Portino complex, 8 to 12 percent slopes
57	Lava flows-Cinderhurst complex, 2 to 15 percent slopes	132	Thosand-Sancrane complex, 0 to 2 percent slopes
58	Lava flows-Pingree complex, 0 to 8 percent slopes	133	Truesdale-Minidoka complex, 0 to 2 percent slopes
59	Leatherman-Adek association, 5 to 50 percent slopes	134	Vitale-Blackspar complex, 5 to 60 percent slopes
60	Leatherman-Bluedome complex, 2 to 8 percent slopes	135	Whitecloud gravelly loam, 1 to 4 percent slopes
61	Malm-Bondfarm-Matheson complex, 2 to 8 percent slopes	136	Whitecloud-Sanfelipe complex, 0 to 4 percent slopes
62	Matheson-Grassy Butte complex, 2 to 15 percent slopes	137	Zeale complex, 2 to 20 percent slopes
63	McCain-Thornock complex, 1 to 4 percent slopes	138	Zeale complex, 20 to 60 percent slopes
64	McCarey-Beartrap complex, 1 to 6 percent slopes	139	Zeale-Coalkiln-Jimbee complex, 25 to 60 percent slopes
65	McCarey-Beartrap complex, 6 to 20 percent slopes	140	Zeebar association, 20 to 50 percent slopes
66	McCarey-Beartrap-Rock outcrop complex, 2 to 15 percent slopes	141	Zeebar-Parvis-Howcan association, 15 to 60 percent slopes
67	McCarey-Molyneux-Lava flows complex, 2 to 15 percent slopes	142	Zer gravelly loam, 1 to 4 percent slopes
68	McCarey-Splittop-Lava flows complex, 4 to 8 percent slopes	143	Zer gravelly loam, 5 to 10 percent slopes
69	McCarey-Vickton-Lava flows complex, 0 to 15 percent slopes	144	Zer very gravelly loam, 4 to 20 percent slopes
70	McClenden-Thornock complex, 1 to 4 percent slopes	145	Zer gravelly loam, 20 to 50 percent slopes
71	Medicine-Whiteknob complex, 0 to 1 percent slopes	146	Zer-Snowslide complex, 5 to 15 percent slopes
72	Menan silt loam, 0 to 2 percent slopes	147	Zer-Whiteknob complex, 1 to 4 percent slopes
73	Mogg-Shagel association, 15 to 60 percent slopes	148	Mooretown-Blackfoot-Borah complex, 0 to 2 percent slopes
74	Mooretown-Borah complex, 0 to 2 percent slopes	149	Drage gravelly loam, cool, 2 to 15 percent slopes
75	Mooretown-Borco complex, 0 to 2 percent slopes	150	Vitale-Blackspar complex, 30 to 60 percent slopes

CONVENTIONAL AND SPECIAL  
SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

National, state, or province



County or parish



Reservation (national forest or park,  
state forest or park)



Limit of soil survey (label)  
and/or denied access area



Field sheet matchline and neatline



LAND DIVISION CORNER  
(section and land grants)



DAMS

Medium or small



ROAD EMBLEMS AND DESIGNATIONS

Interstate



Federal



State



County, farm or ranch



MISCELLANEOUS CULTURAL FEATURES

Church



School



Prominent hill or peak



HYDROGRAPHIC FEATURES

STREAMS

Perennial stream, single line

Label only

MISCELLANEOUS WATER FEATURES

Spring



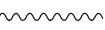
SPECIAL SYMBOLS FOR SOIL  
SURVEY AND SSURGO

SOIL DELINEATIONS AND SYMBOLS



LANDFORM FEATURES

Gully



EXCAVATIONS

Mine or quarry



MISCELLANEOUS SURFACE FEATURES

Gravelly spot



Marsh or swamp



Slide or slip



Spoil area



Stony spot



Very stony spot



Wet spot

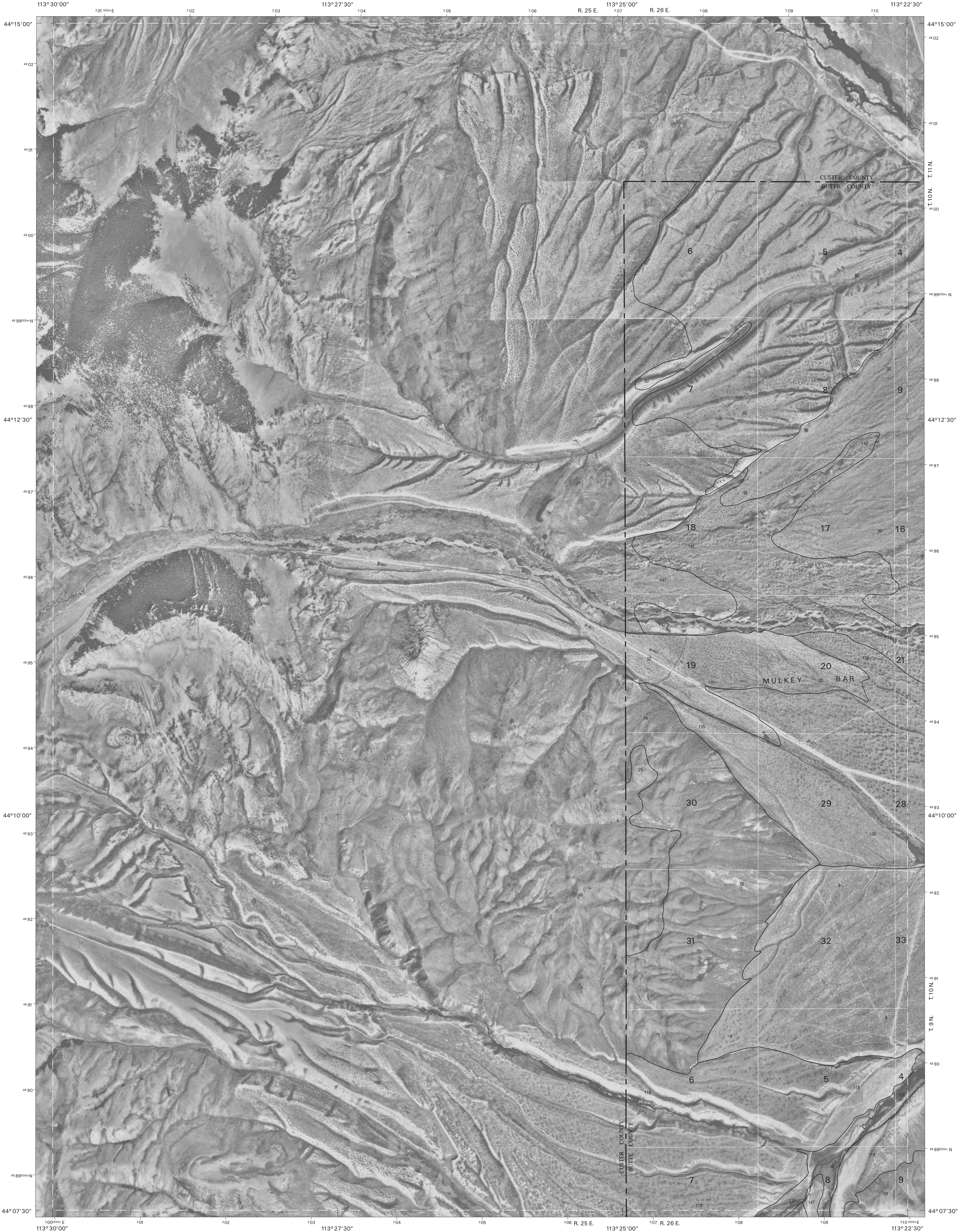


AD HOC FEATURES

Cinder pit







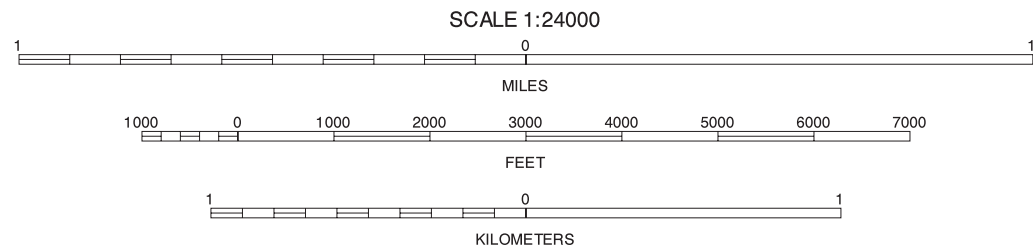
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992-2001 aerial photography. Administrative boundaries were acquired from the State of Idaho. Boundaries may have been edited to conform with features represented on the publication orthophotography or to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



	2	
4	5	5

2 MULKEY BAR  
4 WARREN MOUNTAIN  
5 HAWLEY MOUNTAIN

INDEX TO ADJOINING 7.5 MAPS

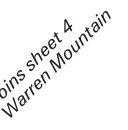
RED HILLS, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 1 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

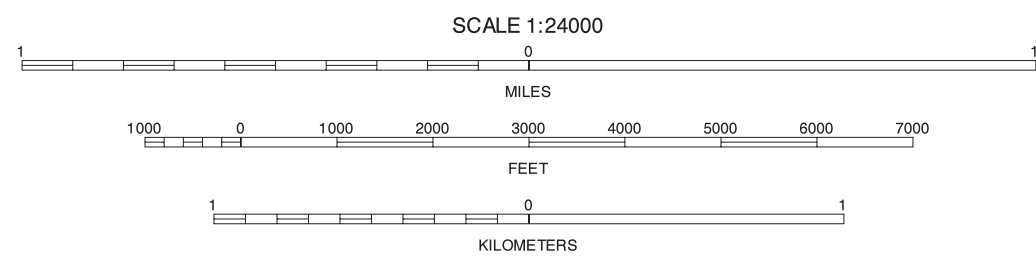
Join sheet 5  
Hawley Mountain



BUTTE COUNTY AREA, IDAHO  
PARTS OF BUTTE AND BINGHAM COUNTIES  
MULKEY BAR QUADRANGLE  
SHEET NUMBER 2 OF 57



North American Datum of 1983(NAD83). GRS80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 12.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.



1		3	1 RED HILLS
			3 BELL MOUNTAIN
4	5	6	4 WARREN MOUNTAIN
			5 HAWLEY MOUNTAIN
			6 BADGER CREEK

INDEX TO ADJOINING 7.5 MAPS

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.





Joins sheet 5  
Hamley Mountain

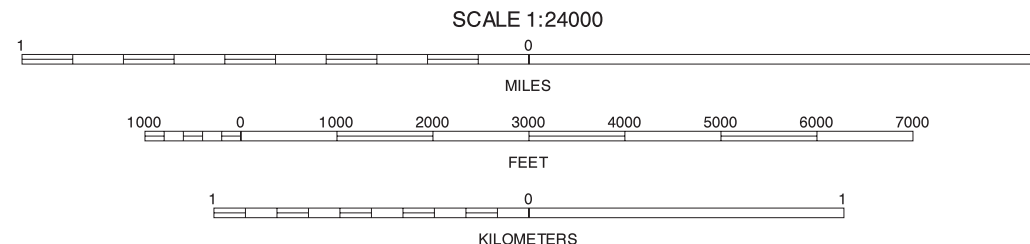
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North American Datum of 1983 (NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



2		
5	6	7

INDEX TO ADJOINING 7.5 MAPS

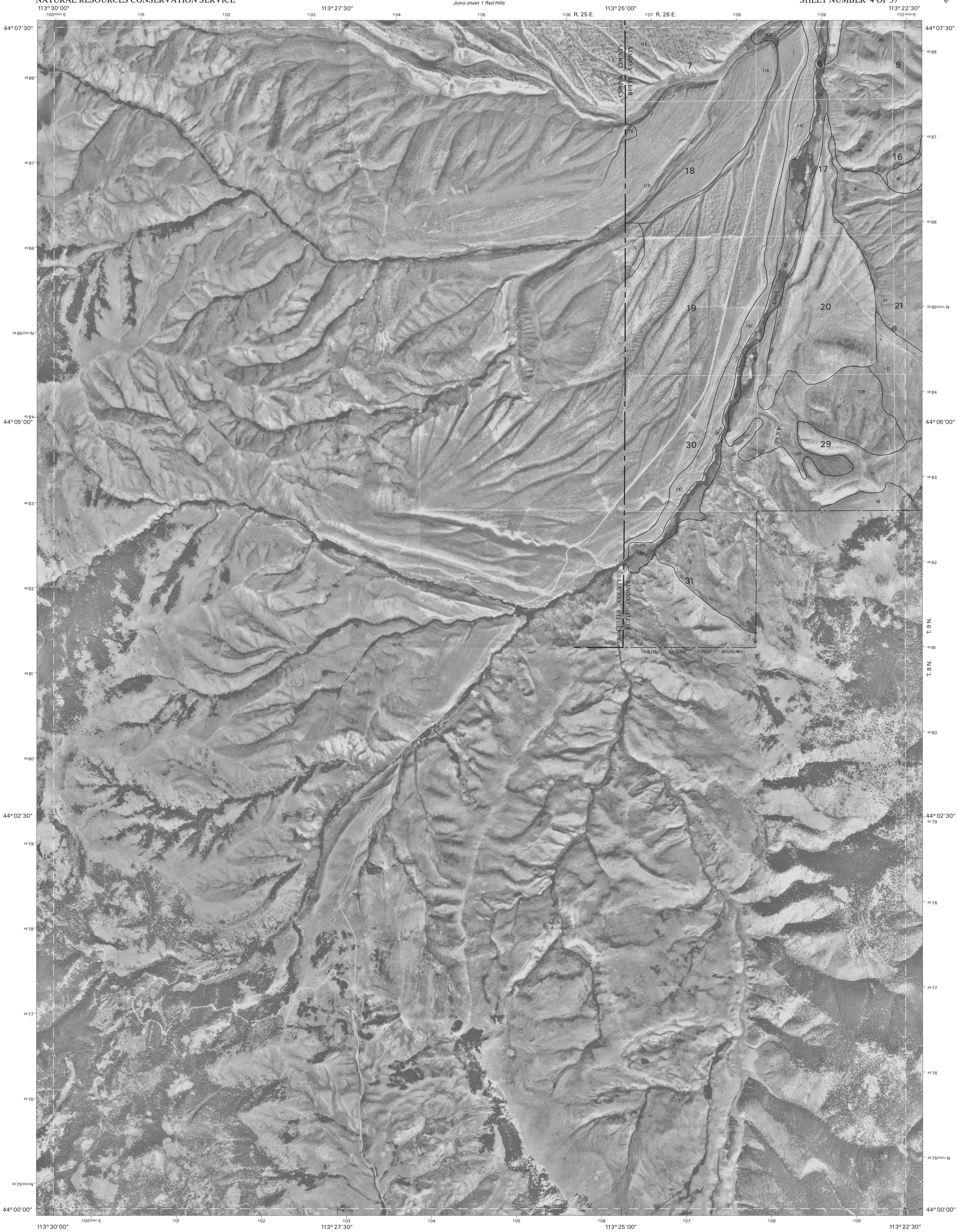
2 MULKEY BAR  
5 HAMLEY MOUNTAIN  
6 BADGER CREEK  
7 FALLERT SPRINGS

BELL MOUNTAIN, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 3 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

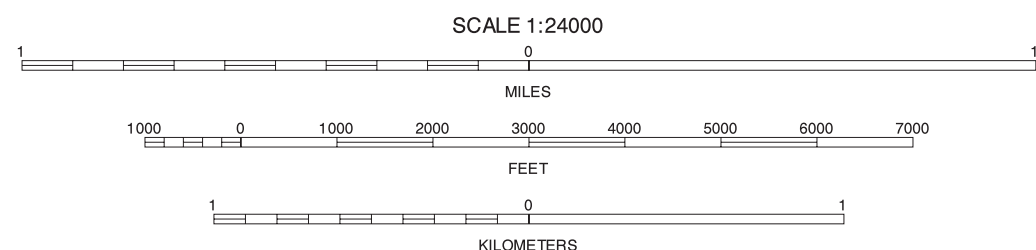
Joins sheet 2  
Fallert Springs





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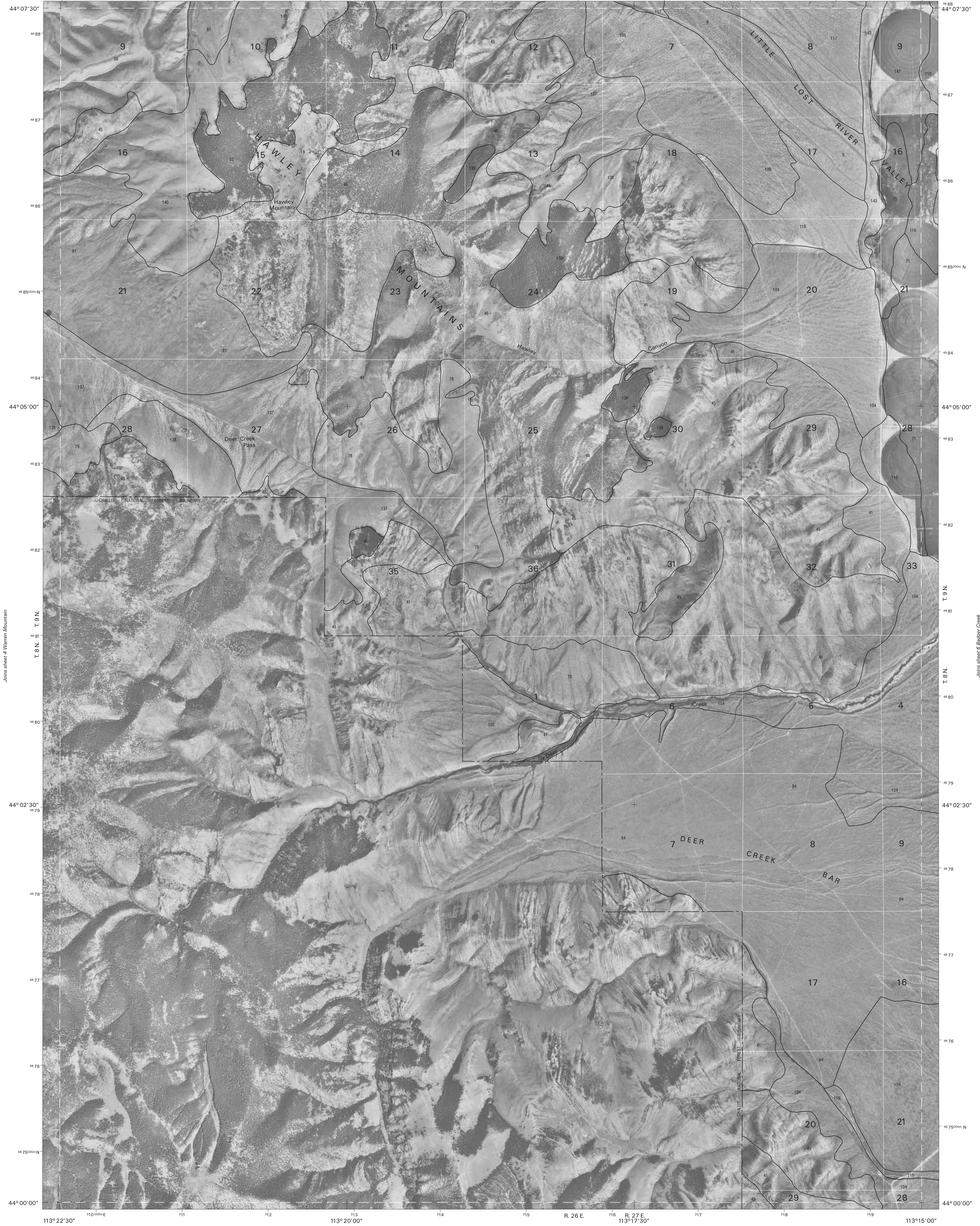
1	2	3
4	5	6
7	8	9

INDEX TO ADJOINING 7.5 MAPS

WARREN MOUNTAIN, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 4 OF 57

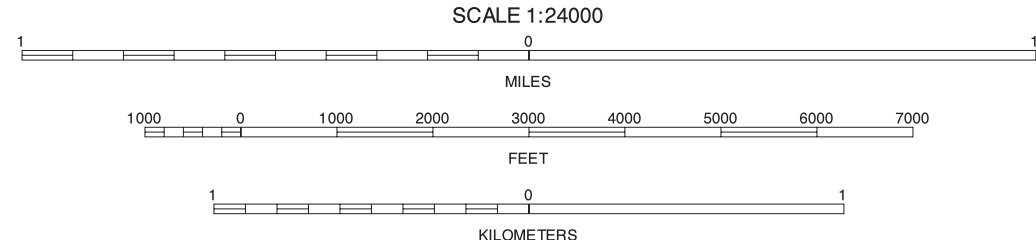
Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.





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1	2	3	1
2	3	4	2
3	4	5	3
4	5	6	4
5	6	7	5
6	7	8	6
7	8	9	7
8	9	10	8
9	10	11	9
10	11	12	10

HAWLEY MOUNTAIN, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 5 OF 57

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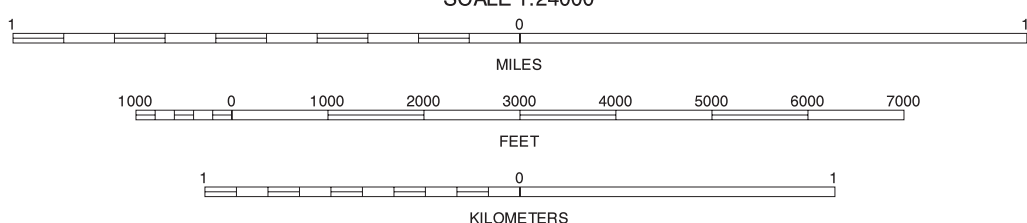


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QUADRANGLE LOCATION



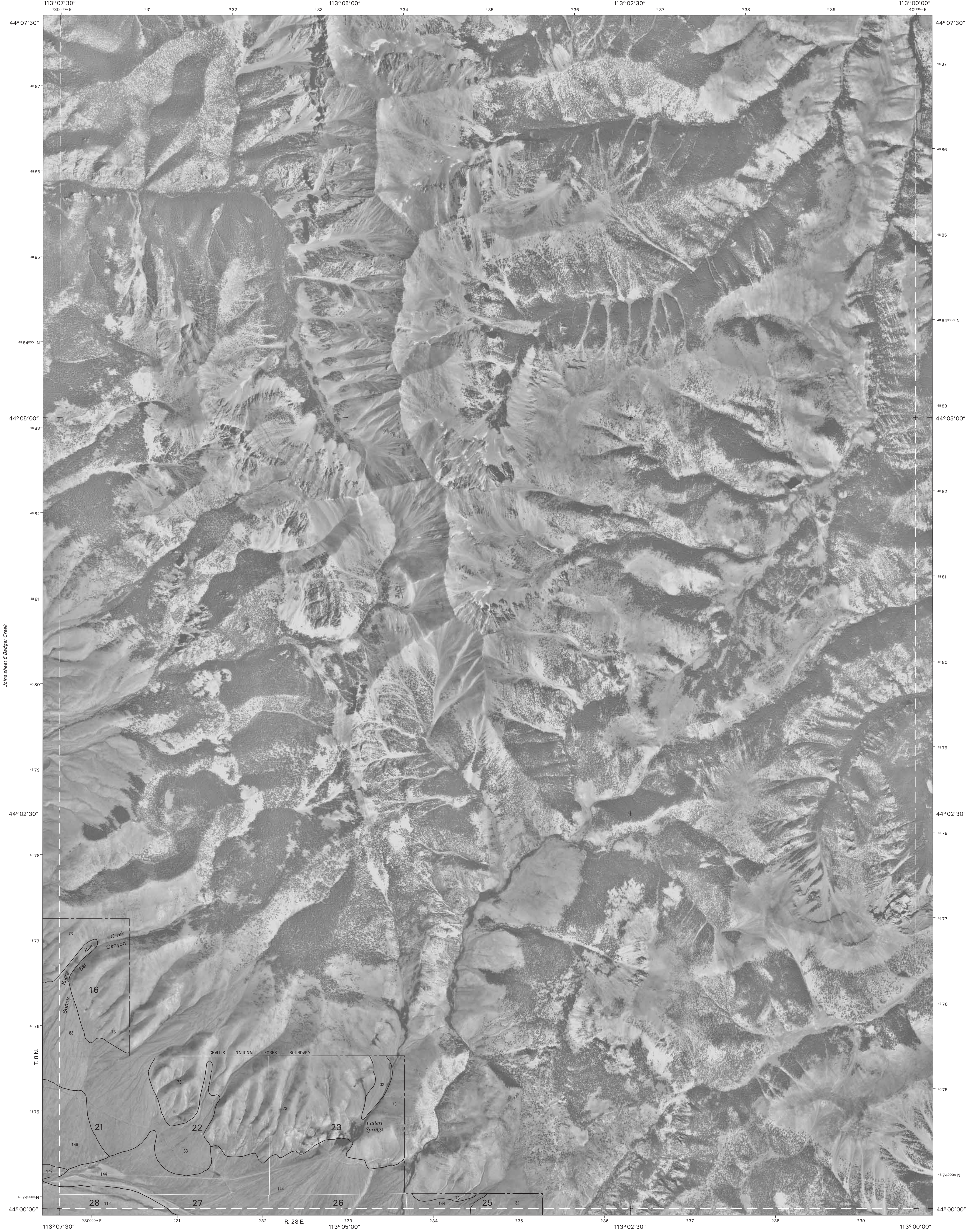
2	3		2
5		7	3
9	10	11	5

INDEX TO ADJOINING 7.5 MAPS

**BADGER CREEK, IDAHO**  
7.5 MINUTE SERIES  
SHEET NUMBER 6 OF 57

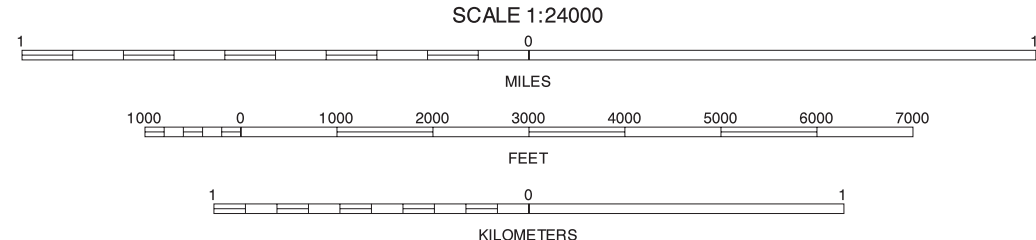
Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.





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North American Datum of 1983 (NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



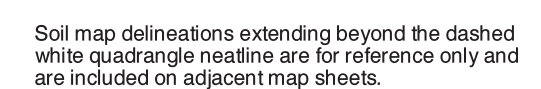
3		3	BELL MOUNTAIN
6		6	BADGER CREEK
10	11	12	10 HOWE NW 11 HOWE NE 12 TYLER PEAK

FALLERT SPRINGS, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 7 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



BUTTE COUNTY AREA, IDAHO  
PARTS OF BUTTE AND BINGHAM COUNTIES  
METHODIST CREEK QUADRANGLE  
SHEET NUMBER 8 OF 57





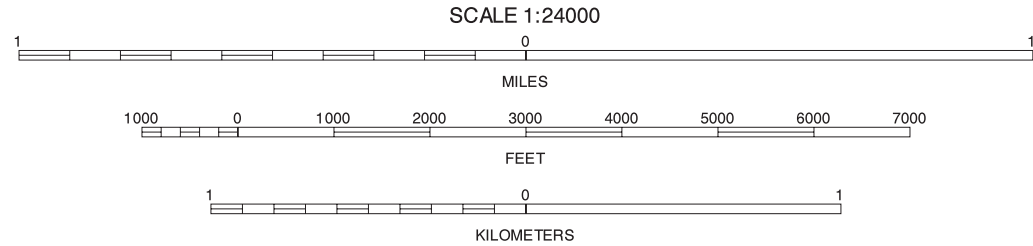


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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



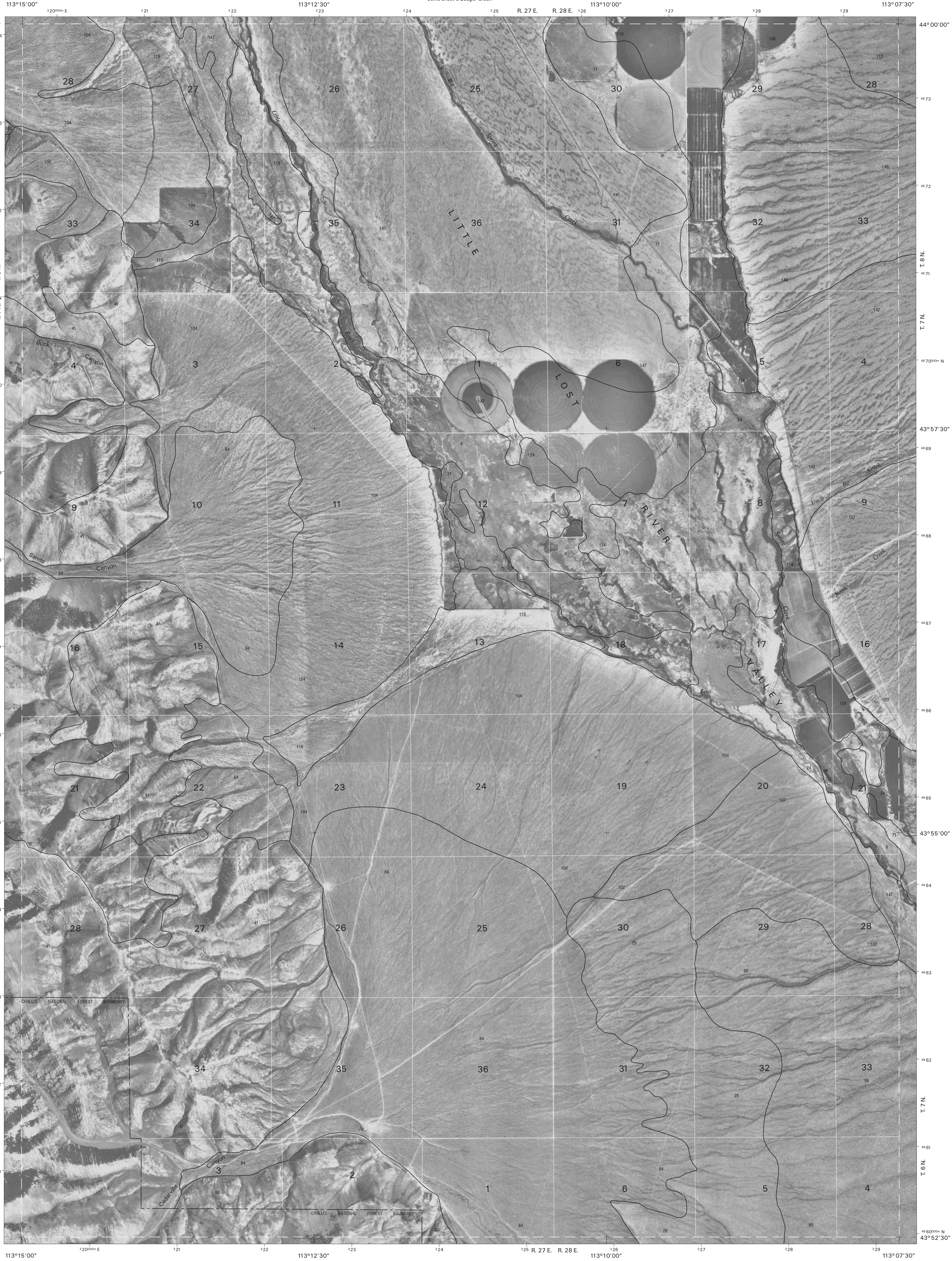
4	5	6	4	WARREN MOUNTAIN
			5	HAWLEY MOUNTAIN
			6	BADGER CREEK
8		10	8	METHODIST CREEK
			10	HOME HAV
			14	DARLINGTON
14	15	16	15	RAMSHORN CANYON
			16	ARCO PASS

INDEX TO ADJOINING 7.5 MAPS

SUNSET PEAK, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 9 OF 57

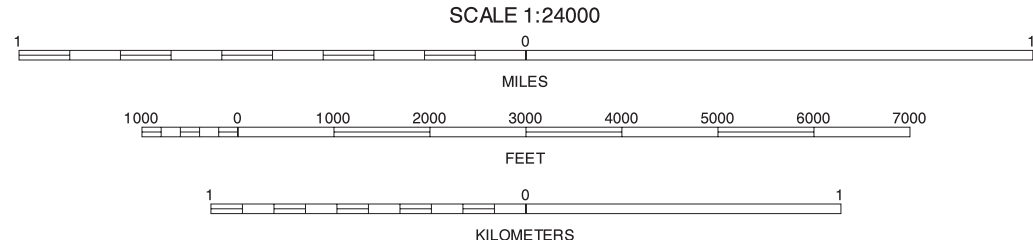
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North American Datum of 1983 (NAD83), GRS80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

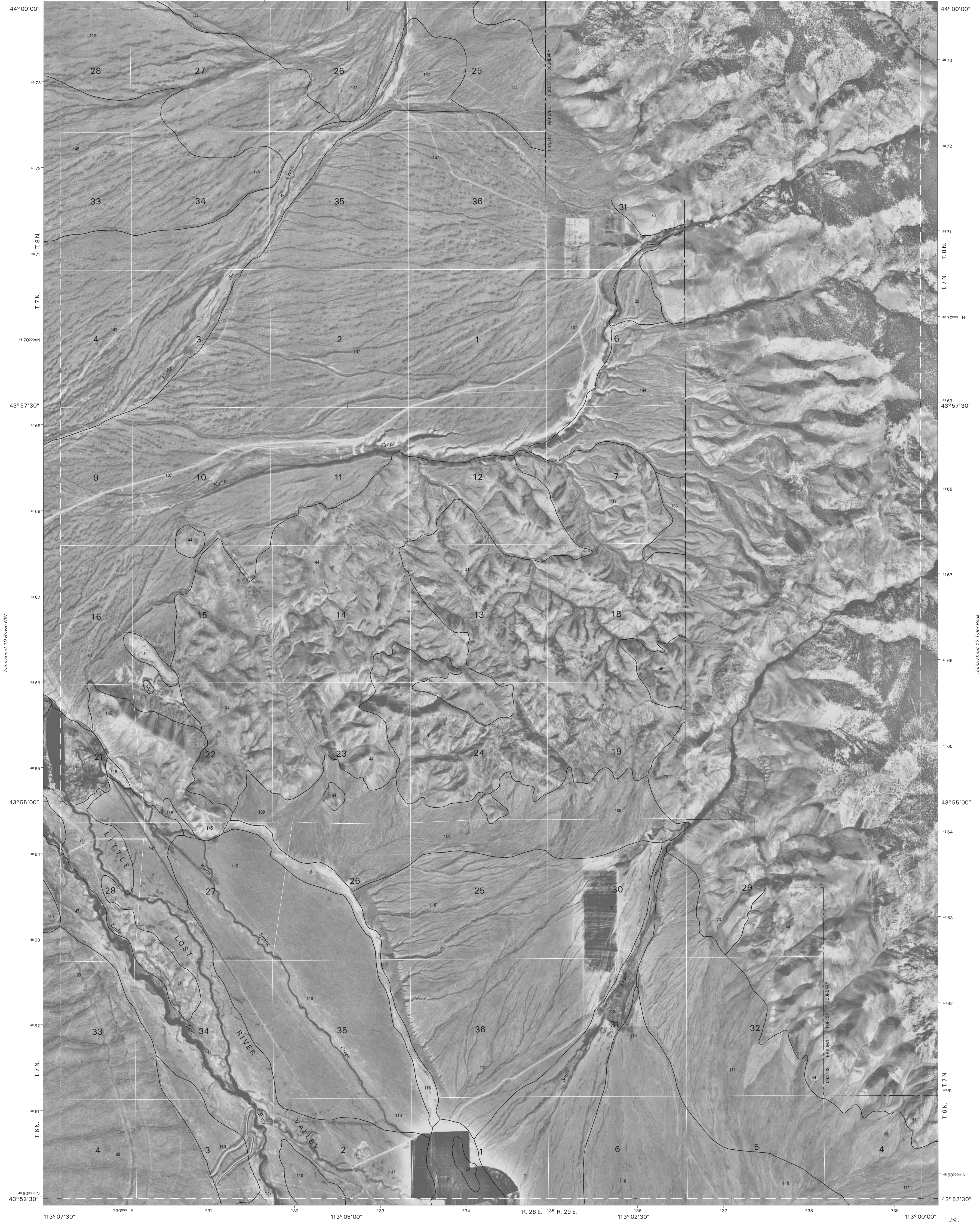


5	6	7	5 HAWLEY MOUNTAIN
			6 BADGER CREEK
			7 FALLERT SPRINGS
9		11	9 SUNSET PEAK
			11 HOWE NE
			15 RAMSHORN CANYON
15	16	17	16 ARCO PASS
			17 HOWE

HOWE NW, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 10 OF 57

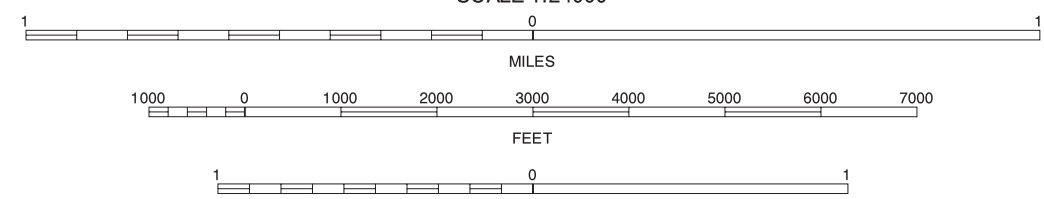
Soil map delineations extending beyond the dashed white quadrangle headnote are for reference only and are included on adjacent map sheets.





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North American Datum of 1983 (NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



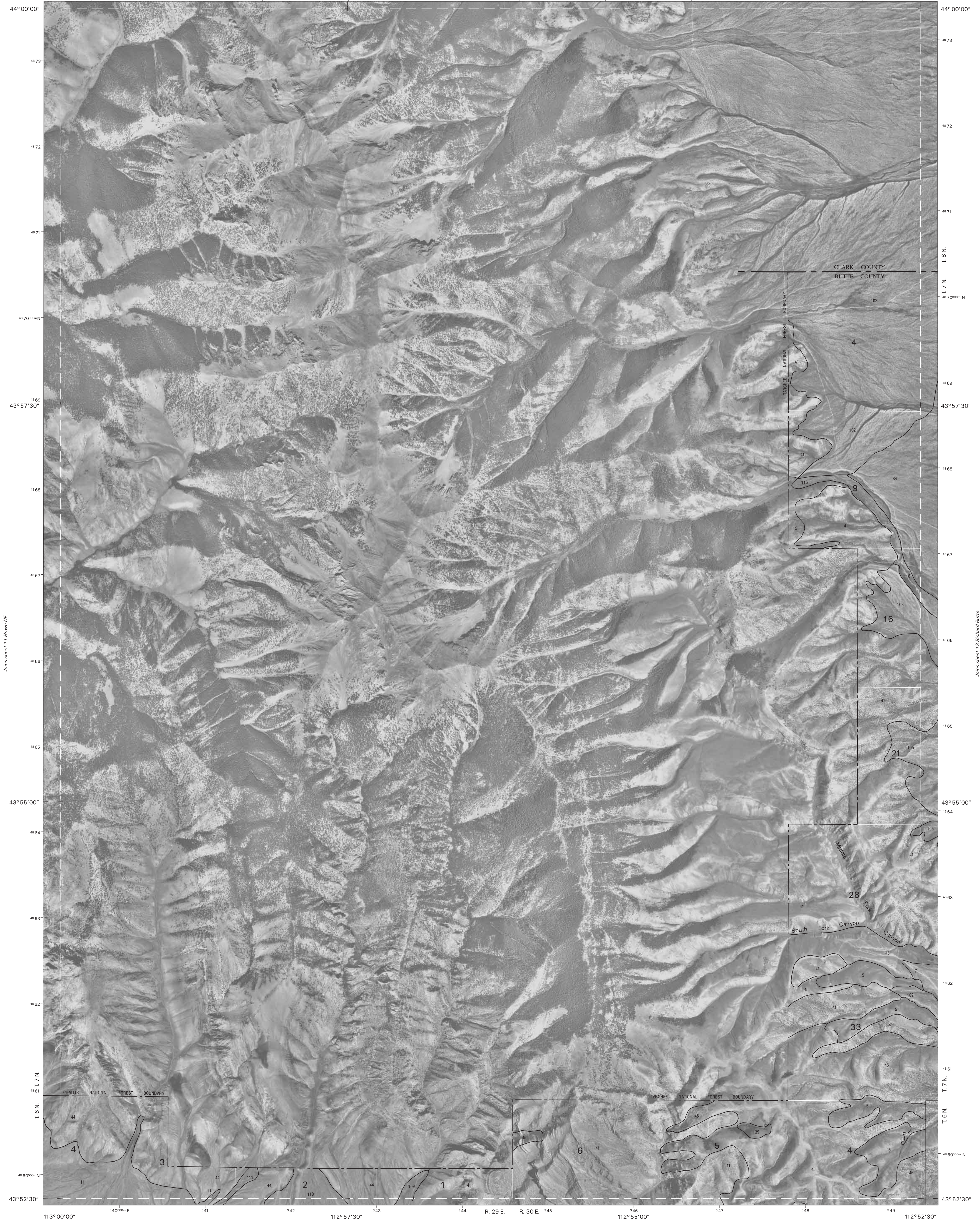
6	7	6 BADGER CREEK
10	12	7 FALLERT SPRINGS
16	17	10 HOWE NW
		12 TYLER PEAK
		16 ARGO PASS
		17 HOWE
		18 LITTLE LOST RIVER SINKS

INDEX TO ADJOINING 7.5 MAPS

HOWE NE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 11 OF 57

Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.





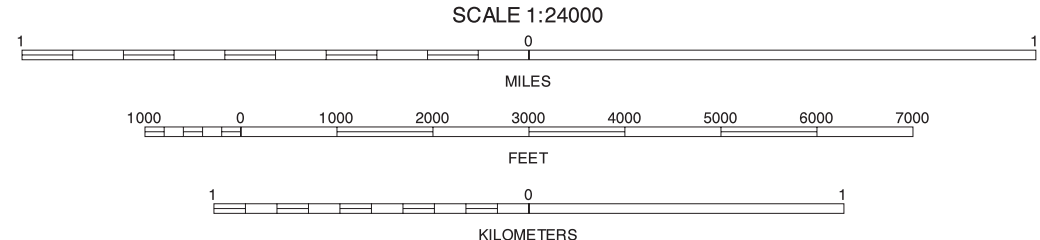
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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



7		7	FALLERY SPRINGS
11		13	HOWE NE
			17 HOWE
17	18		18 LITTLE LOST RIVER SINKS

INDEX TO ADJOINING 7.5 MAPS

TYLER PEAK, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 12 OF 57

Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.



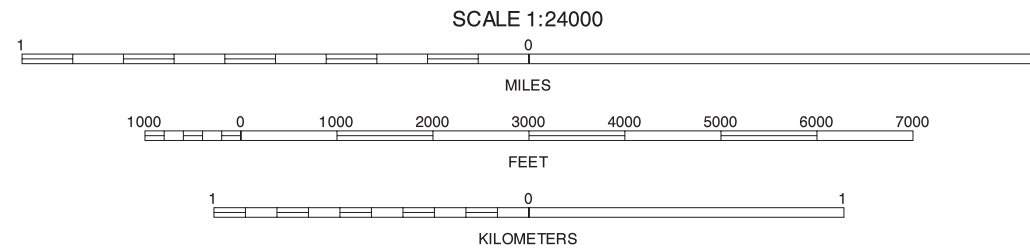


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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



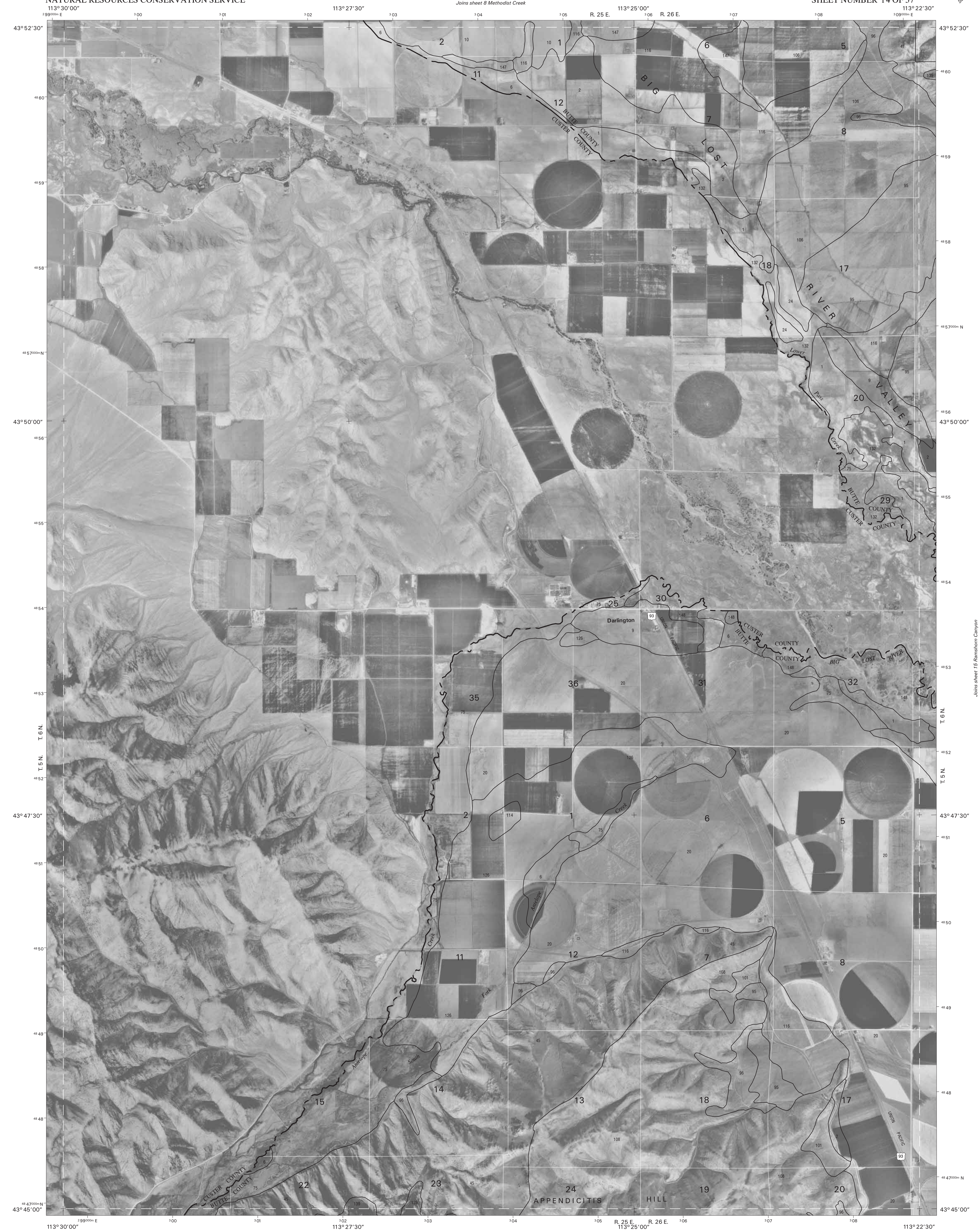
12	18
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RICHARD BUTTE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 13 OF 57

Soil map delineations extending beyond the dashed white quadrangle heatline are for reference only and are included on adjacent map sheets.





Joins sheet 20  
Grouse

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Joins sheet 21 Appendixitis Hill

SCALE 1:24000

0 1  
MILES

0 1000 2000 3000 4000 5000 6000 7000  
FEET

0 1  
KILOMETERS

Joins sheet 22  
Arco North

	8	9
		15
20	21	22

INDEX TO ADJOINING 7.5 MAPS

8 METHODIST CREEK  
9 SUNSET PEAK  
15 RAMSHORN CANYON  
20 GROUSE  
21 APPENDICITIS HILL  
22 ARCO NORTH

DARLINGTON, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 14 OF 57

Soil map delineations extending beyond the dashed white quadrangle nealtine are for reference only and are included on adjacent map sheets.



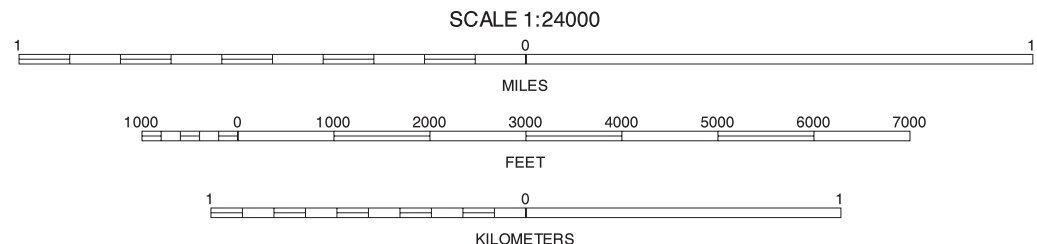
UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

BUTTE COUNTY AREA, IDAHO  
PARTS OF BUTTE AND BINGHAM COUNTIES  
RAMSHORN CANYON QUADRANGLE  
SHEET NUMBER 15 OF 57



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8	9	10	5	METHODIST CREEK
14	16	10	9	SUNSET PEAK
21	22	23	14	DARLINGTON
			16	ARCOS PASS
			21	APPENDICITIS HILL
			22	ARCOS NORTH
			23	ARCOS HILLS

RAMSHORN CANYON, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 15 OF 57

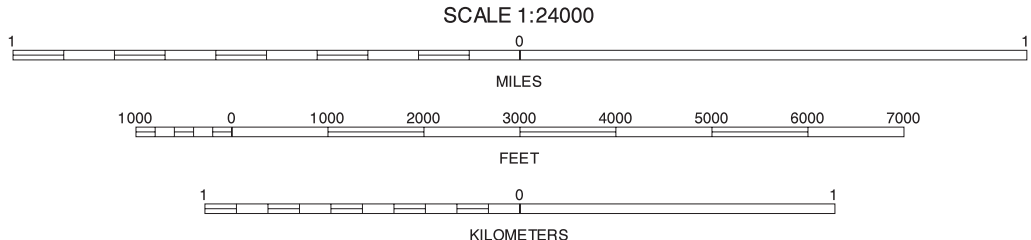
Soil map delineations extending beyond the dashed white quadrangle neoline are for reference only and are included on adjacent map sheets.





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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



9	10	11	9 SUNSET PEAK
			10 HOWE NW
			11 HOWE NE
15		17	15 RAMSHORN CANYON
			17 HOWE
			22 ARCO NORTH
22	23	24	23 ARCO HILLS
			24 HOWE PEAK

ARCO PASS, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 16 OF 57

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



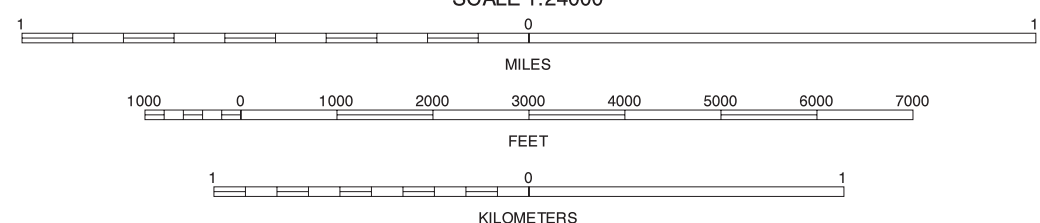


This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992-2001 aerial photography. Administrative boundaries were acquired from the State of Idaho. Boundaries may have been edited to conform with features represented on the publication orthophotography or to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



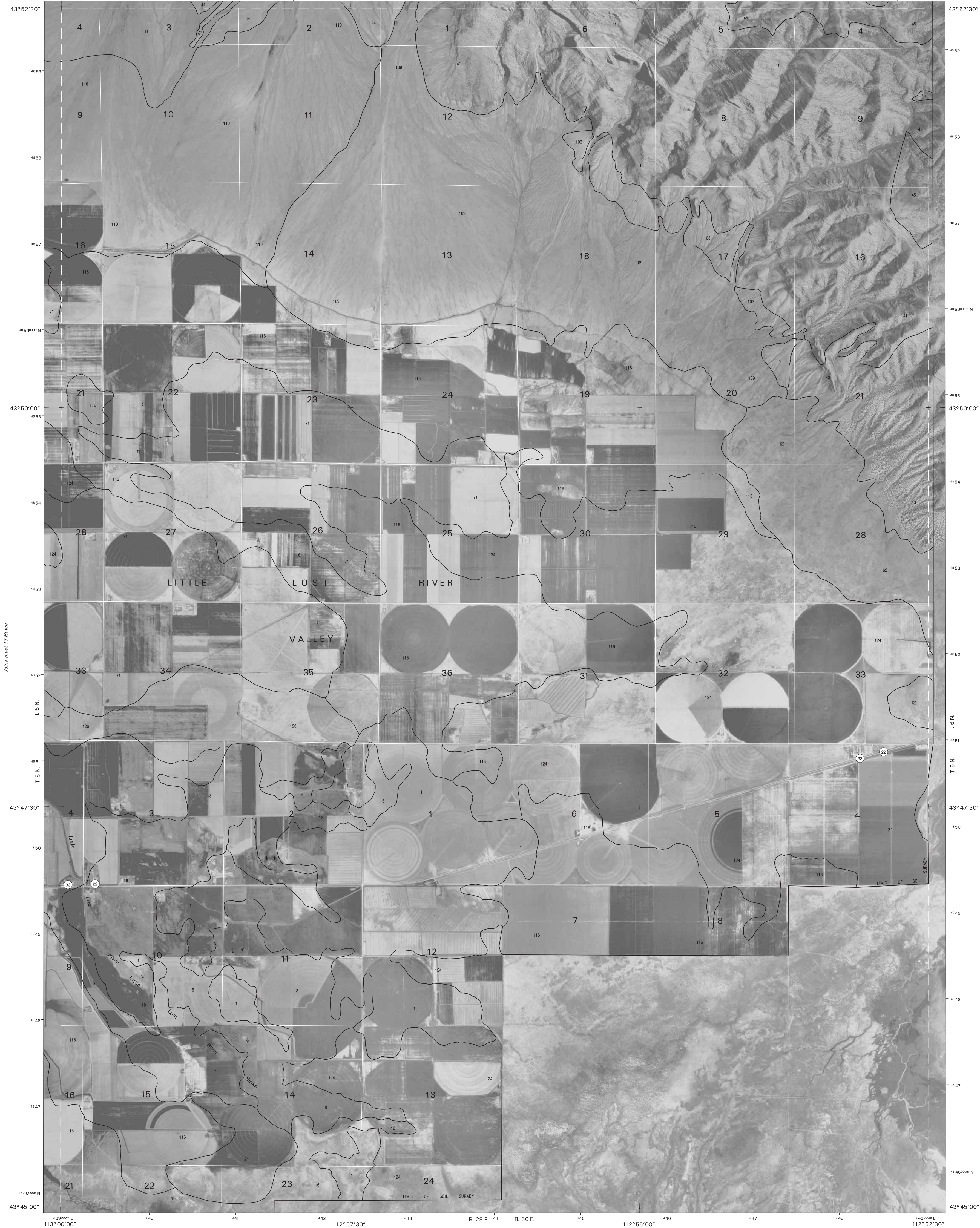
10	11	12
16	17	18
23	24	25

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HOWE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 17 OF 57

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



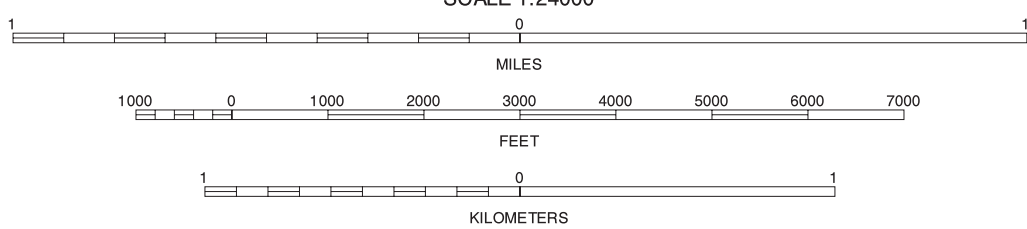


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North American Datum of 1983 (NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



11	12	13
17		17
24	25	

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LITTLE LOST RIVER SINKS, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 18 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatlne are for reference only and are included on adjacent map sheets.





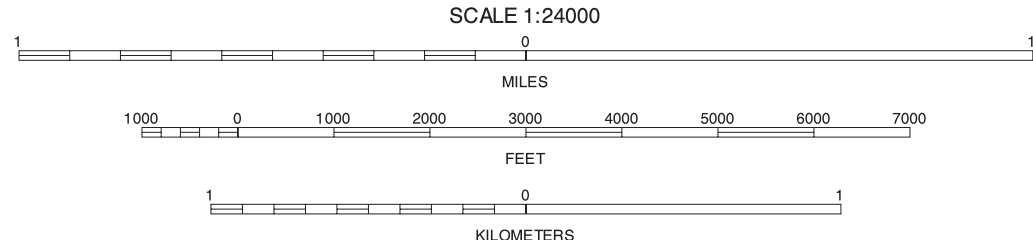
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992-2001 aerial photography. Administrative boundaries were acquired from the State of Idaho. Boundaries may have been edited to conform with features represented on the publication orthophotography or to enhance the clarity of the soils information.

North American Datum of 1983(NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



	20	20 GROUSE
26	27	26 BLIZZARD MOUNTAIN NORTH 27 CHAMPAGNE CREEK

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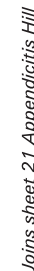
MILLER PEAK, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 19 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.




BUTTE COUNTY AREA, IDAHO  
PARTS OF BUTTE AND BINGHAM COUNTIES  
GROUSE QUADRANGLE  
SHEET NUMBER 20 OF 57

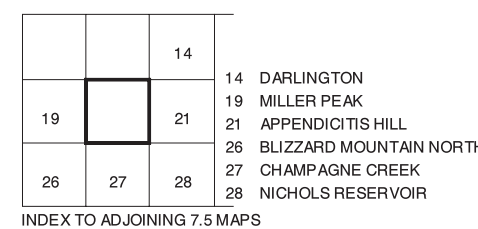
Joins sheet 20  
Nichols Reservo



North American Datum of 1983 (NAD83). GRS80 Spheroid.  
1000-meter ticks: Universal Transverse Mercator, zone 12.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.



QUADRANGLE LOCATION



Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



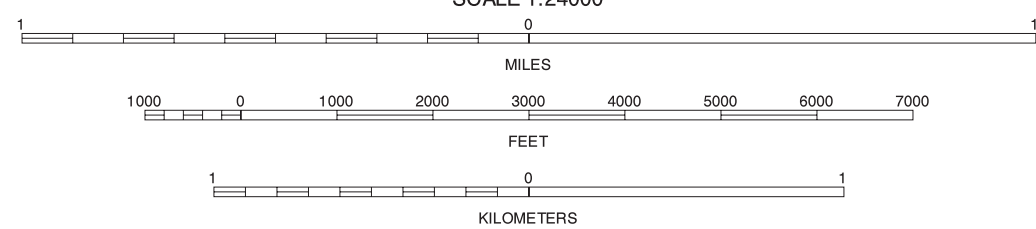


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North American Datum of 1983 (NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



14	15
20	22
27	28

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APPENDICITIS HILL, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 21 OF 57

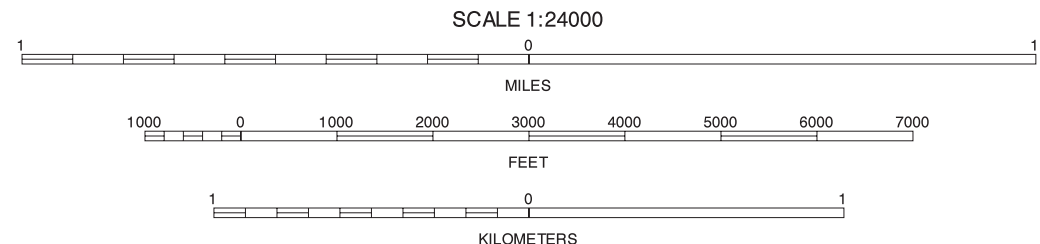
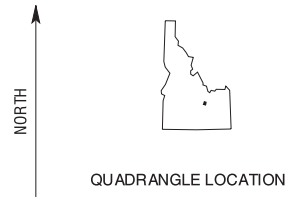
Soil map delineations extending beyond the dashed white quadrangle neoline are for reference only and are included on adjacent map sheets.





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North American Datum of 1983 (NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



14	15	16	14 DARLINGTON
21	22	23	15 RAMSHORN CANYON
28	29	30	16 ARCO PASS
			21 APPENDICITIS HILL
			23 ARCO HILLS
			28 NICHOLS RESERVOIR
			29 ARCO SOUTH
			30 BUTTE CITY

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ARCO NORTH, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 22 OF 57

Soil map delineations extending beyond the dashed white quadrangle neoline are for reference only and are included on adjacent map sheets.



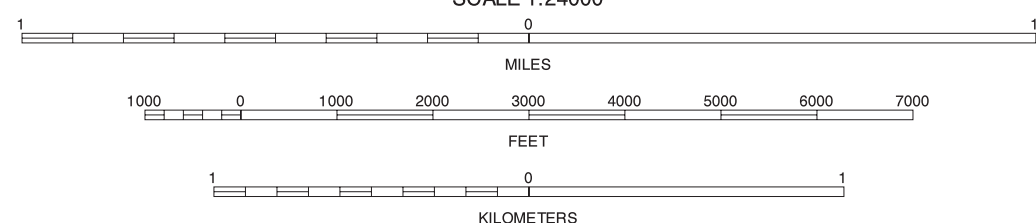


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North American Datum of 1983 (NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



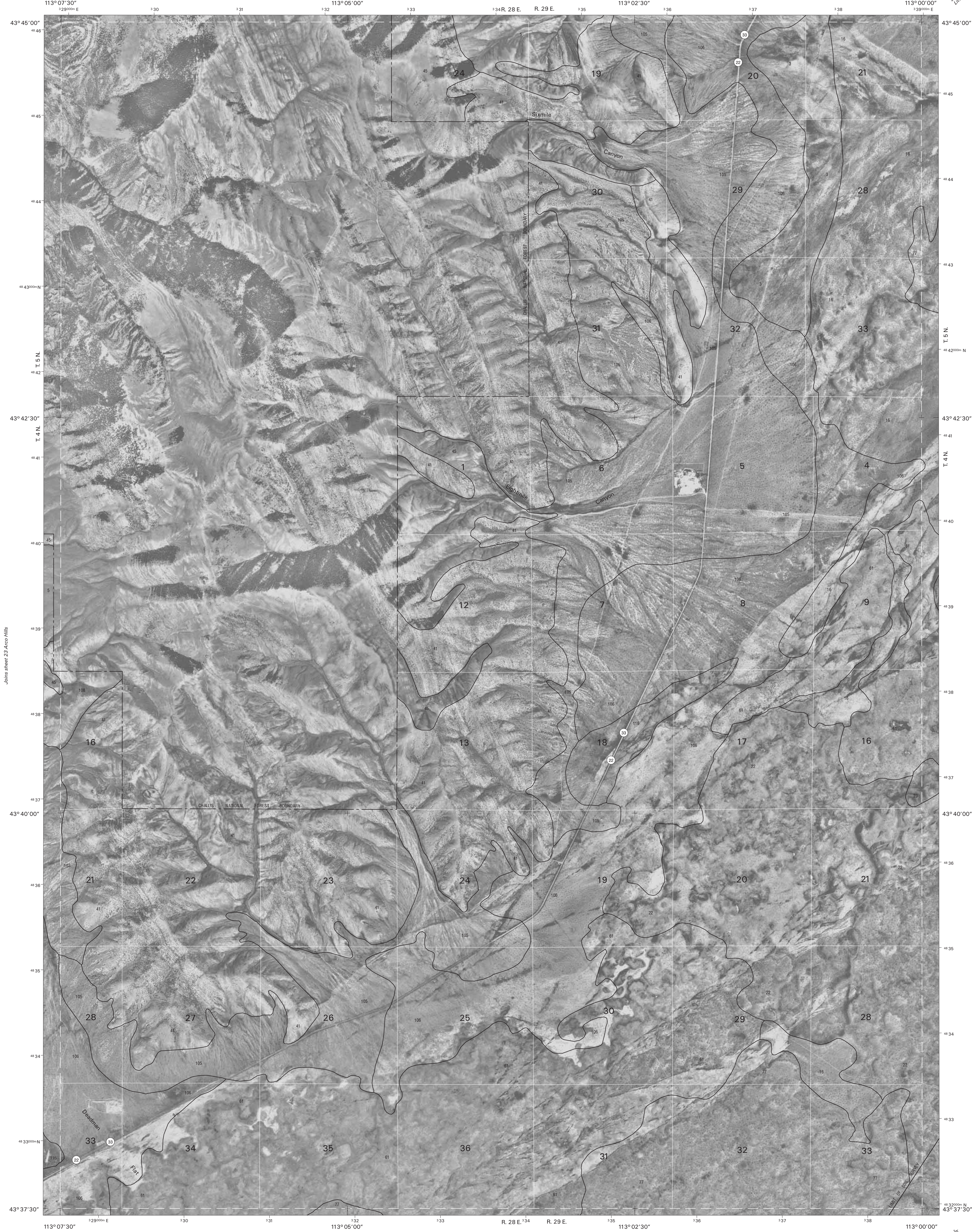
15	16	17	15	RAMSHORN CANYON
22	23	24	16	ARCO PASS
29	30	31	17	HOWE
			22	ARCO NORTH
			24	HOWE PEAK
			29	ARCO SOUTH
			30	BUTTE CITY
			31	ARCO HILLS SE

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ARCO HILLS, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 23 OF 57

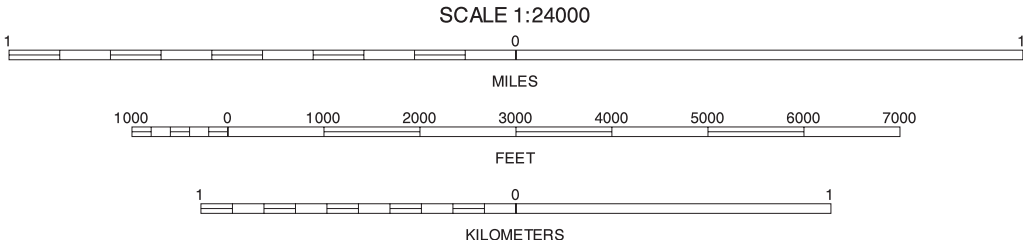
Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.





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North American Datum of 1983(NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



16	17	18
23		25
30	31	32

HOWE PEAK, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 24 OF 57

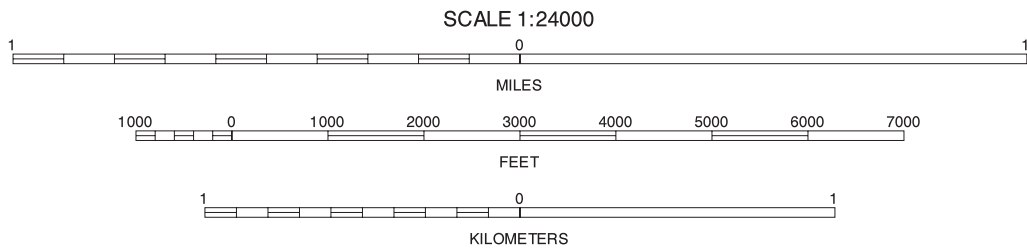
Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.





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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



17	18		17 HOWE
			18 LITTLE LOST RIVER SINKS
24			24 HOWE PEAK
			31 ARCO HILLS SE
31	32	33	32 CIRCULAR BUTTE 3 SW
			33 CIRCULAR BUTTE 3 SE

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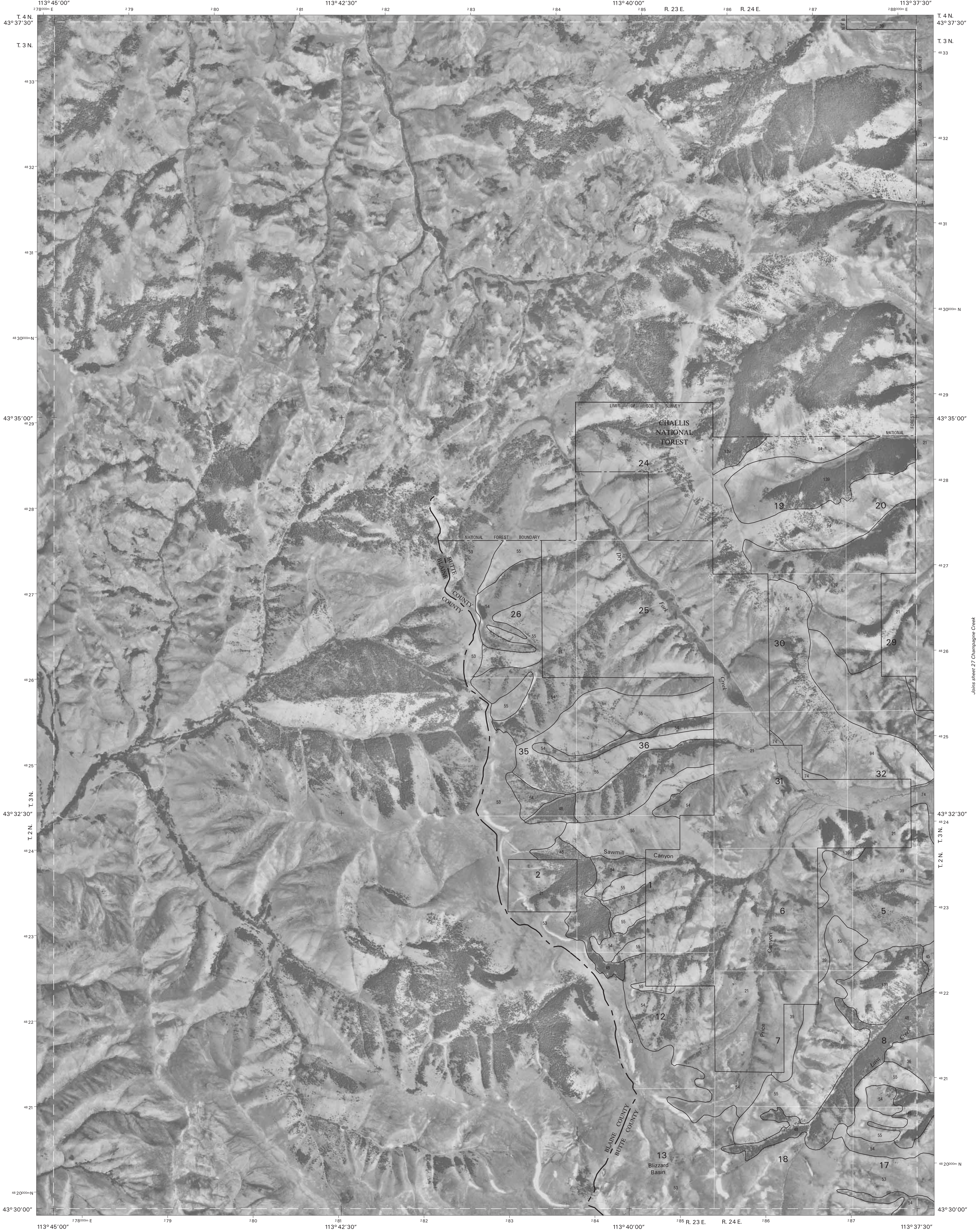
CIRCULAR BUTTE 3 NW, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 25 OF 57

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.



Joins sheet 19 Miller Peak

Joins sheet 20  
Inferno Cone



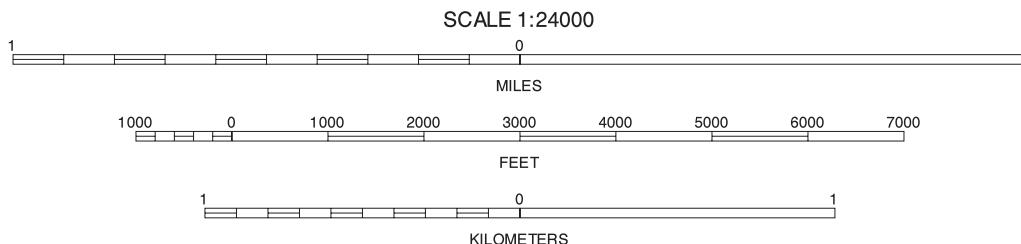
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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



Joins sheet 36 Blizzard Mountain South

19	20	19 MILLER PEAK GROUSE
27	27	27 CHAMPAGNE CREEK
36	37	36 BLIZZARD MOUNTAIN SOUTH
		37 INFERNO CONE

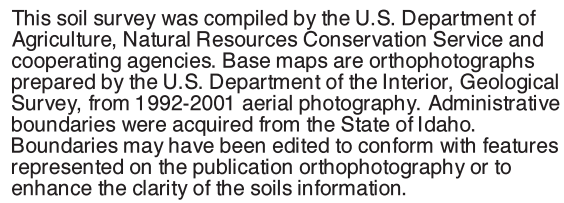
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BLIZZARD MOUNTAIN NORTH, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 26 OF 57

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

Joins sheet 37  
Inferno Cone

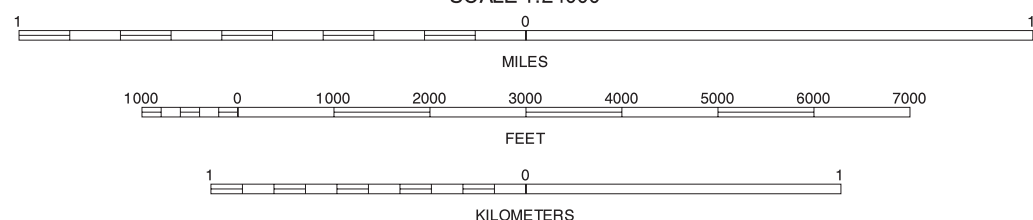




North American Datum of 1983(NAD83). GRS80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 1  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.



QUADRANGLE LOCATION



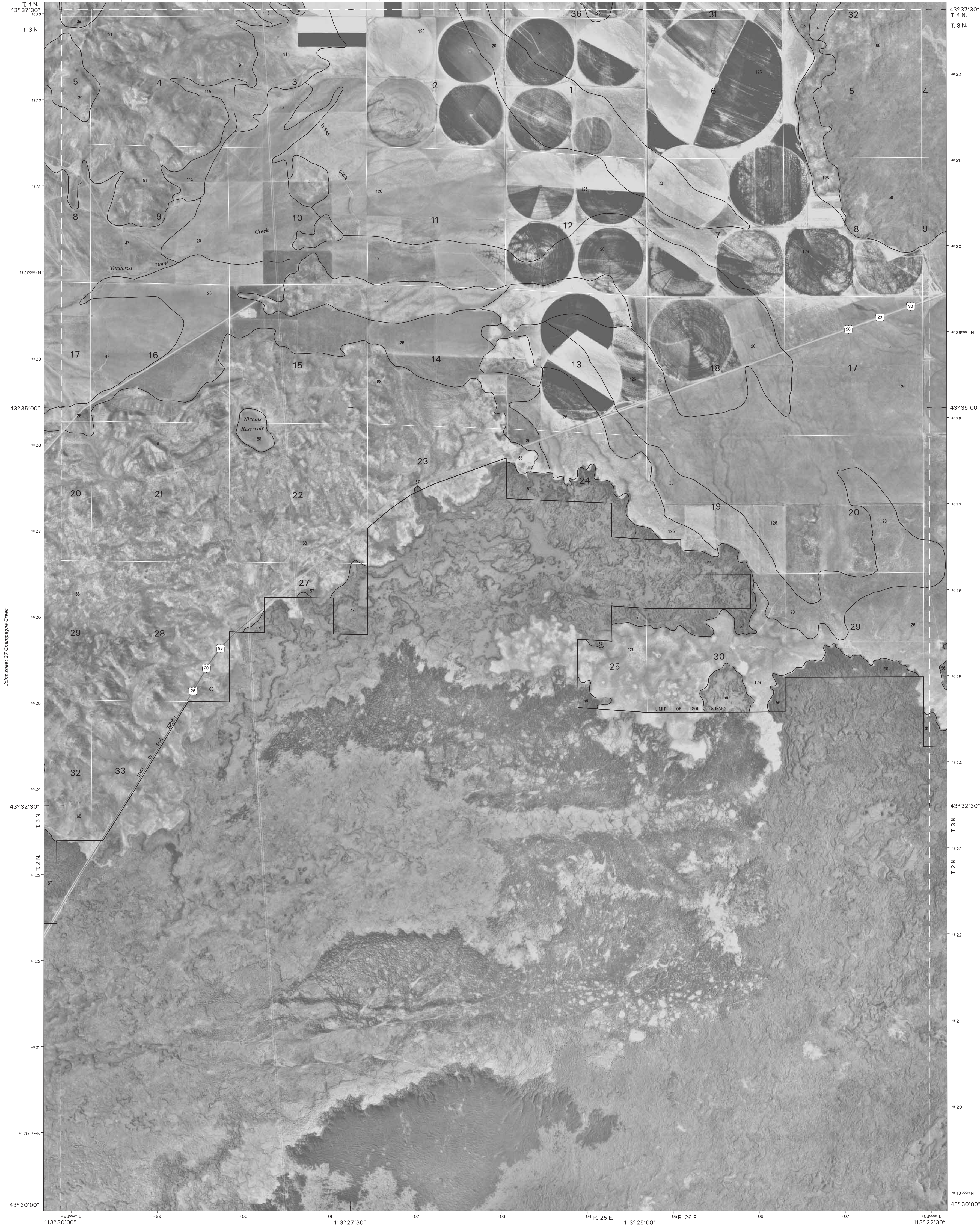
19	20	21	19 MILLER PEAK
			20 GROUSE
			21 APPENDICITIS HILL
26		28	26 BLIZZARD MOUNTAIN NORTH
			28 NICHOLS RESERVOIR
			36 BLIZZARD MOUNTAIN SOUTH
36	37		37 INFERNO CONE

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CHAMPAGNE CREEK, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 27 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



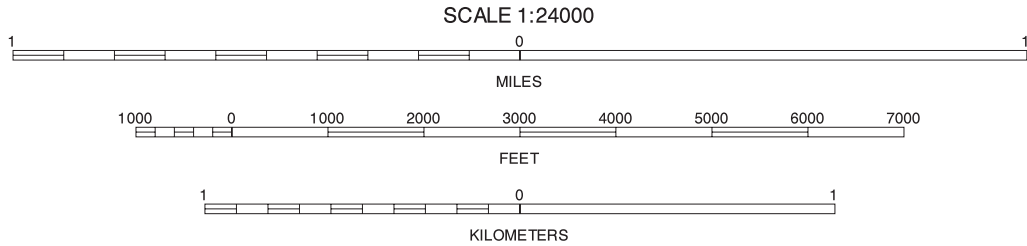


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North American Datum of 1983 (NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



20	21	22	20 GROUSE
21	22	23	21 APPENDICITIS HILL
22	23	24	22 ARCO NORTH
23	24	25	23 CHAMPAGNE CREEK
24	25	26	24 ARCO SOUTH
25	26	27	25 INFERNO CONE
26	27	28	26 FINGERS BUTTE

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NICHOLS RESERVOIR, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 28 OF 57

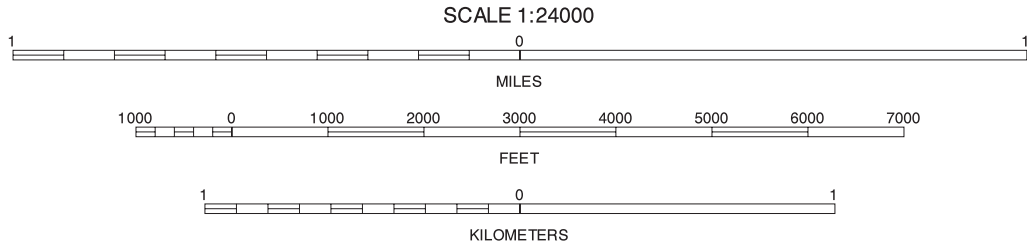
Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.





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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



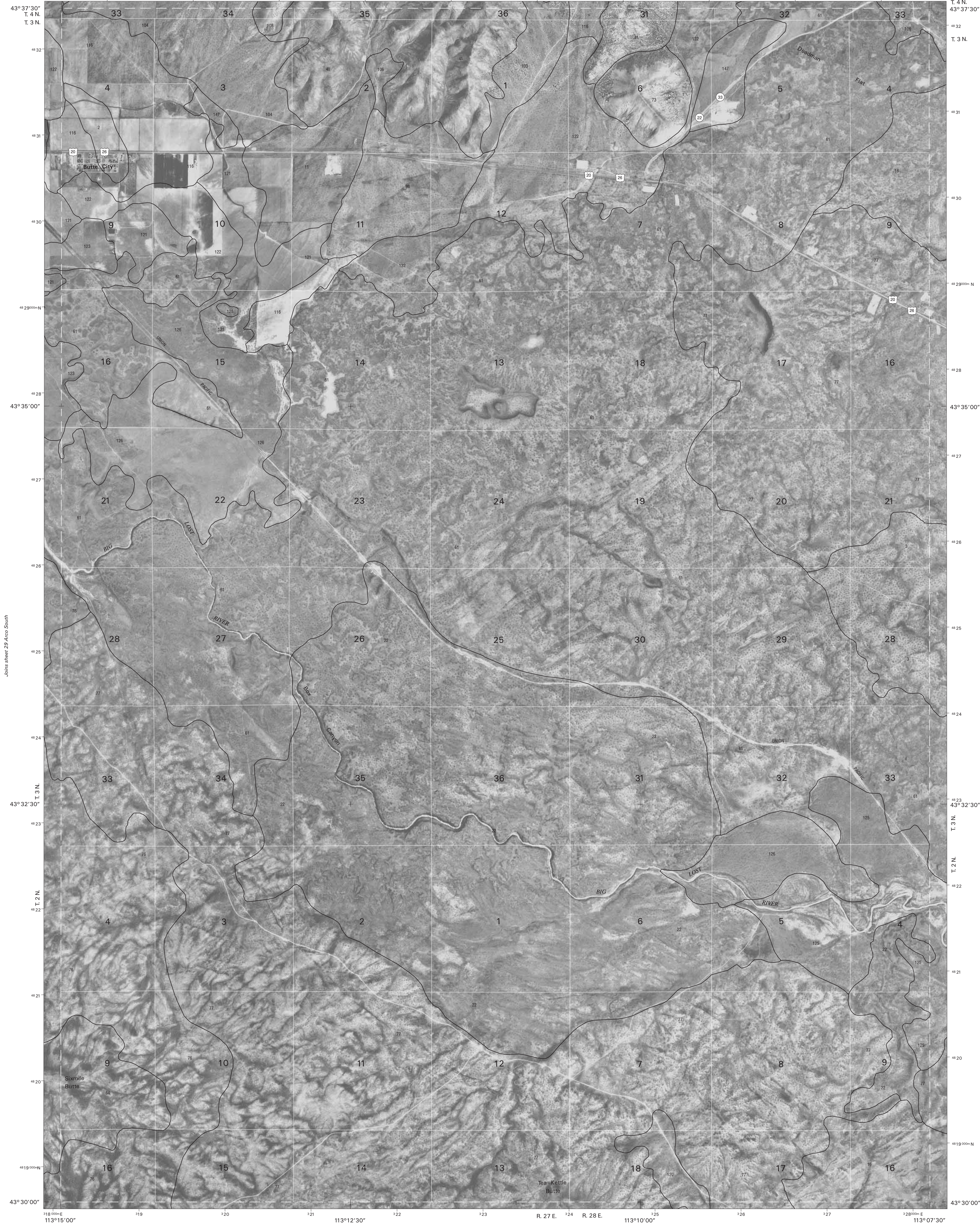
21	22	23	21 APPENDICITIS HILL
28	29	30	22 ARCO NORTH
	38	39	23 ARCO HILLS
			28 NICHOLS RESERVOIR
			30 BUTTE CITY
			38 FINGERS BUTTE
			39 QUAKING ASPEN BUTTE

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ARCO SOUTH, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 29 OF 57

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.



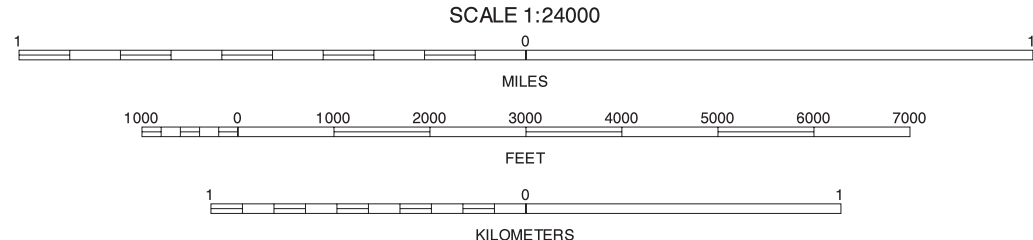


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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



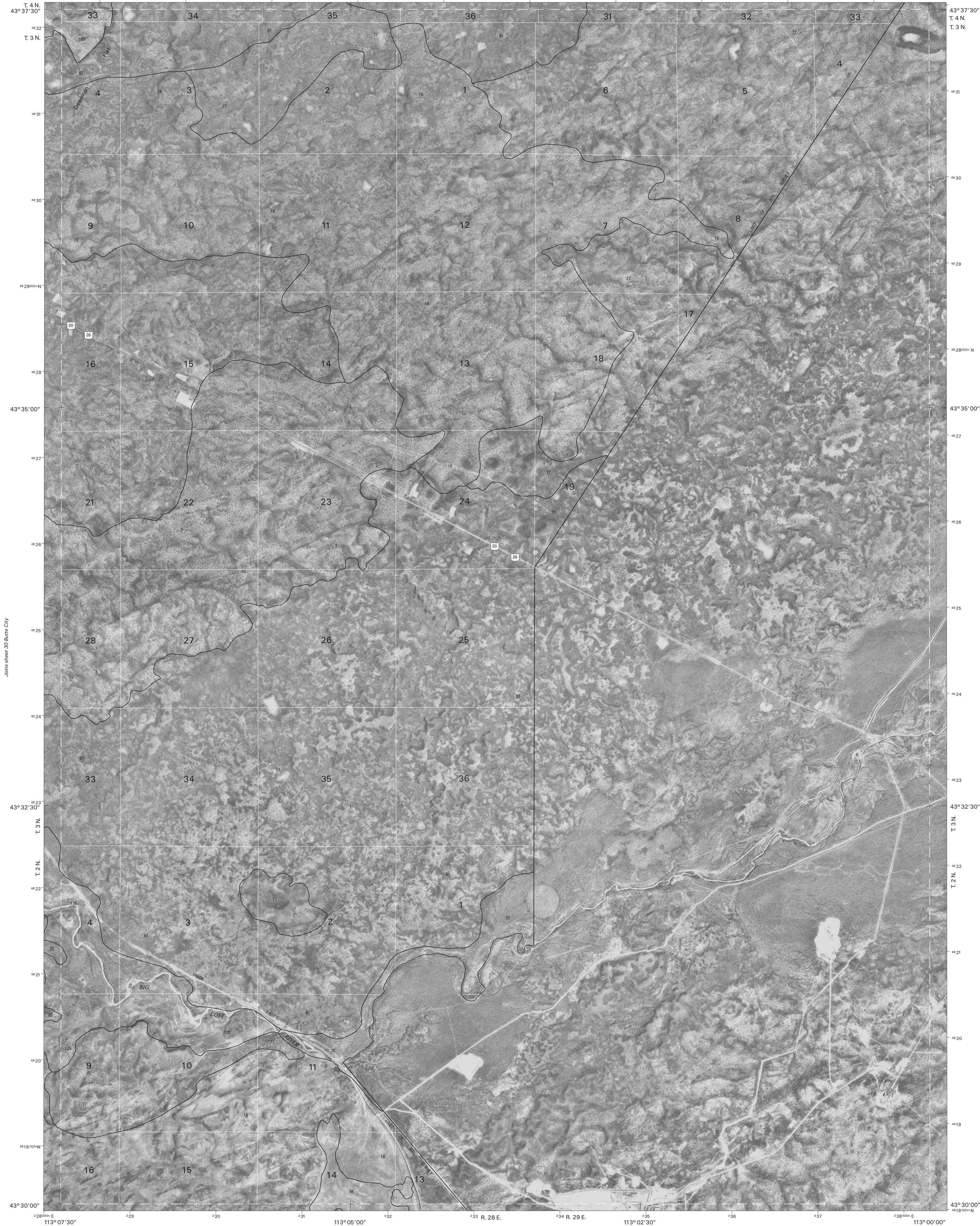
22	23	24
29	30	31
38	39	40

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BUTTE CITY, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 30 OF 57

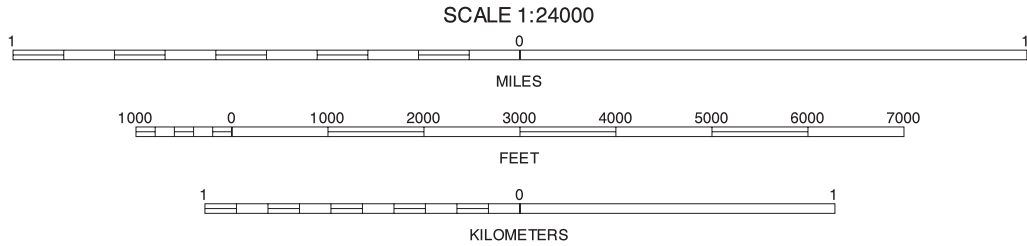
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.





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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



23	24	25	23 ARCO HILLS
24	25	26	24 HOWE PEAK
25	26	27	25 CIRCULAR BUTTE 3 NW
26	27	28	26 BUTTE CITY
27	28	29	27 CIRCULAR BUTTE 3 SW
28	29	30	28 QUAKING ASPEN BUTTE
29	30	31	29 BIG SOUTHERN BUTTE
30	31	32	30 SCOVILLE

ARCO HILLS SE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 31 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.





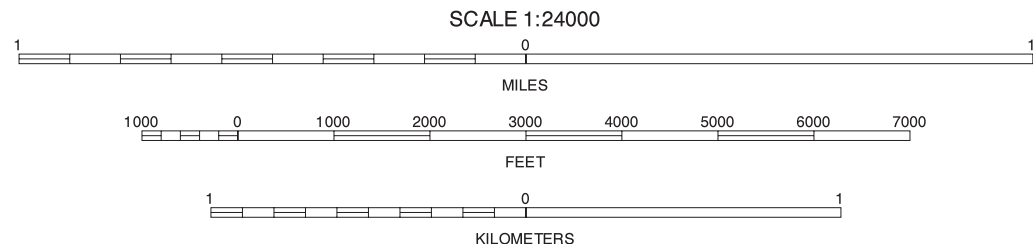
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North American Datum of 1983(NAD83), GRS80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 12.  
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



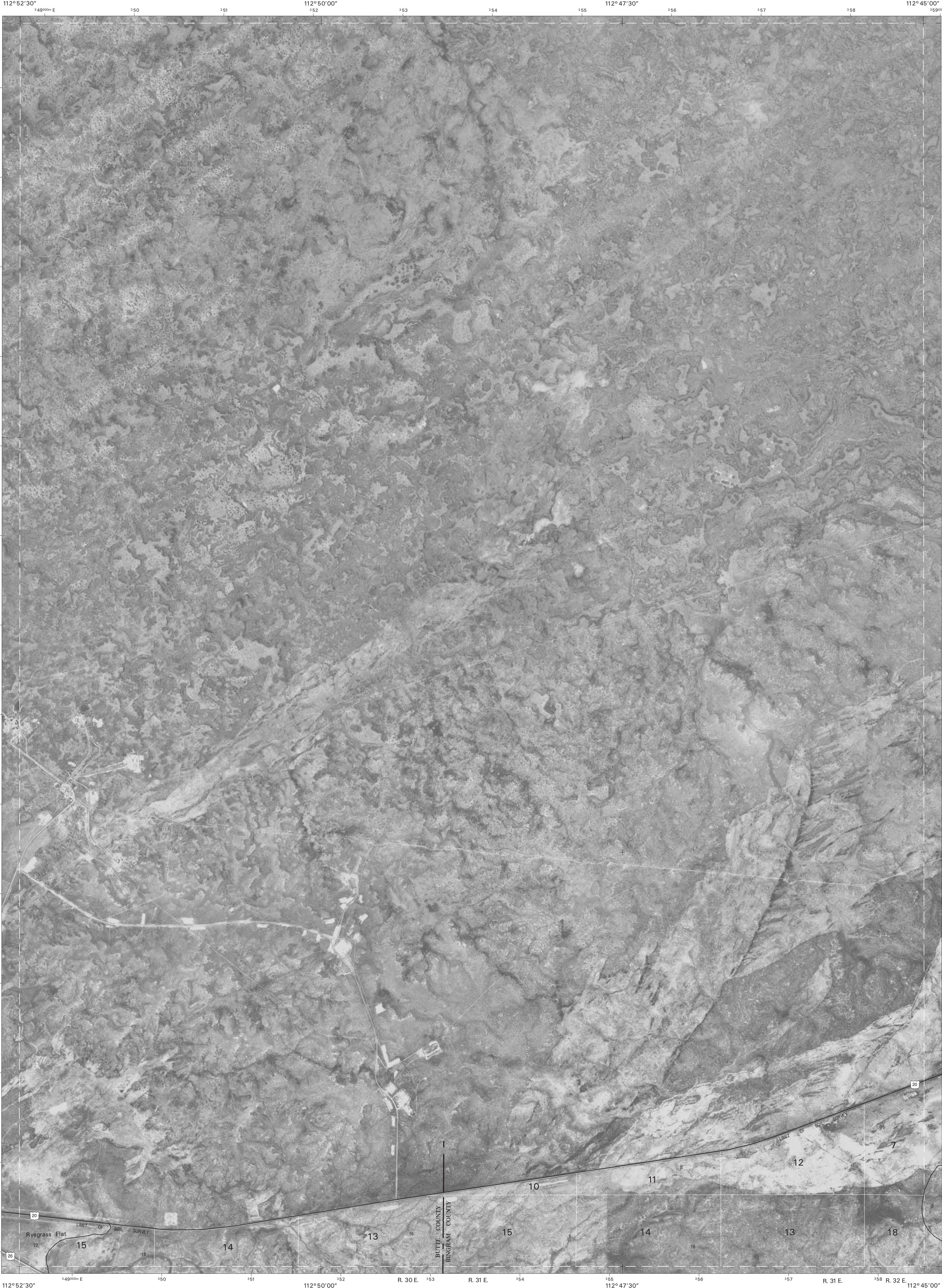
24	25	
31		33
40	41	42

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CIRCULAR BUTTE 3 SW, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 32 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



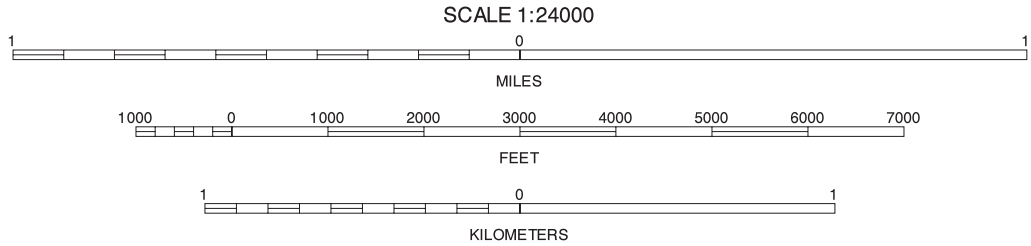


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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



25			25	CIRCULAR BUTTE 3 NW
32		34	32	CIRCULAR BUTTE 3 SW
			34	LITTLE BUTTE SW
41	42	43	41	SCOVILLE
			42	ATOMIC CITY
			43	MIDDLE BUTTE

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CIRCULAR BUTTE 3 SE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 33 OF 57

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.





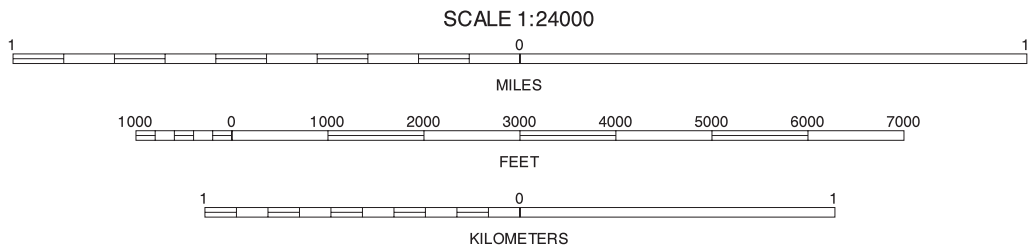
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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



33	35	33 CIRCULAR BUTTE 3 SE
42	43	35 LITTLE BUTTE
		42 ATOMIC CITY
		43 MIDDLE BUTTE
		44 TABER NE

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LITTLE BUTTE SW, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 34 OF 57

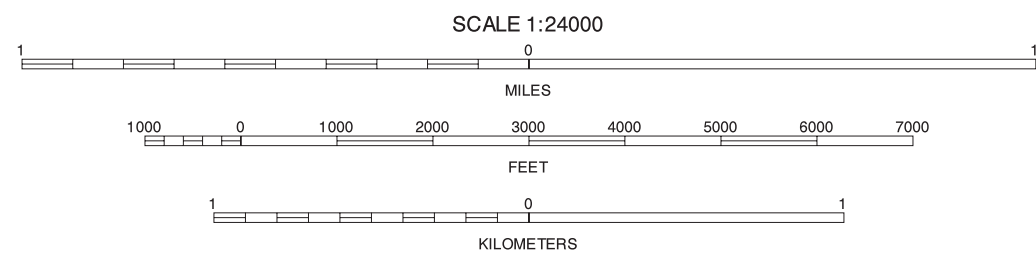
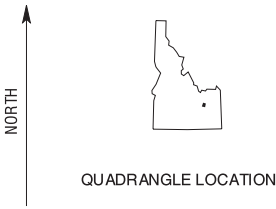
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North American Datum of 1983 (NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



34	LITTLE BUTTE SW
43	MIDDLE BUTTE
44	TABER NE

LITTLE BUTTE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 35 OF 57

Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.



Joins sheet 26 Blizzard Mountain North

Joins sheet 27  
Champagne Creek



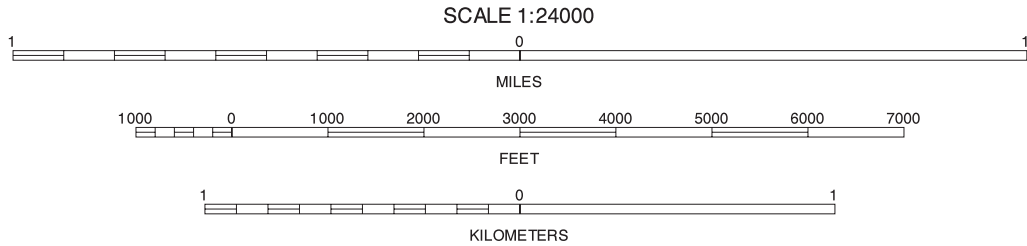
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North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



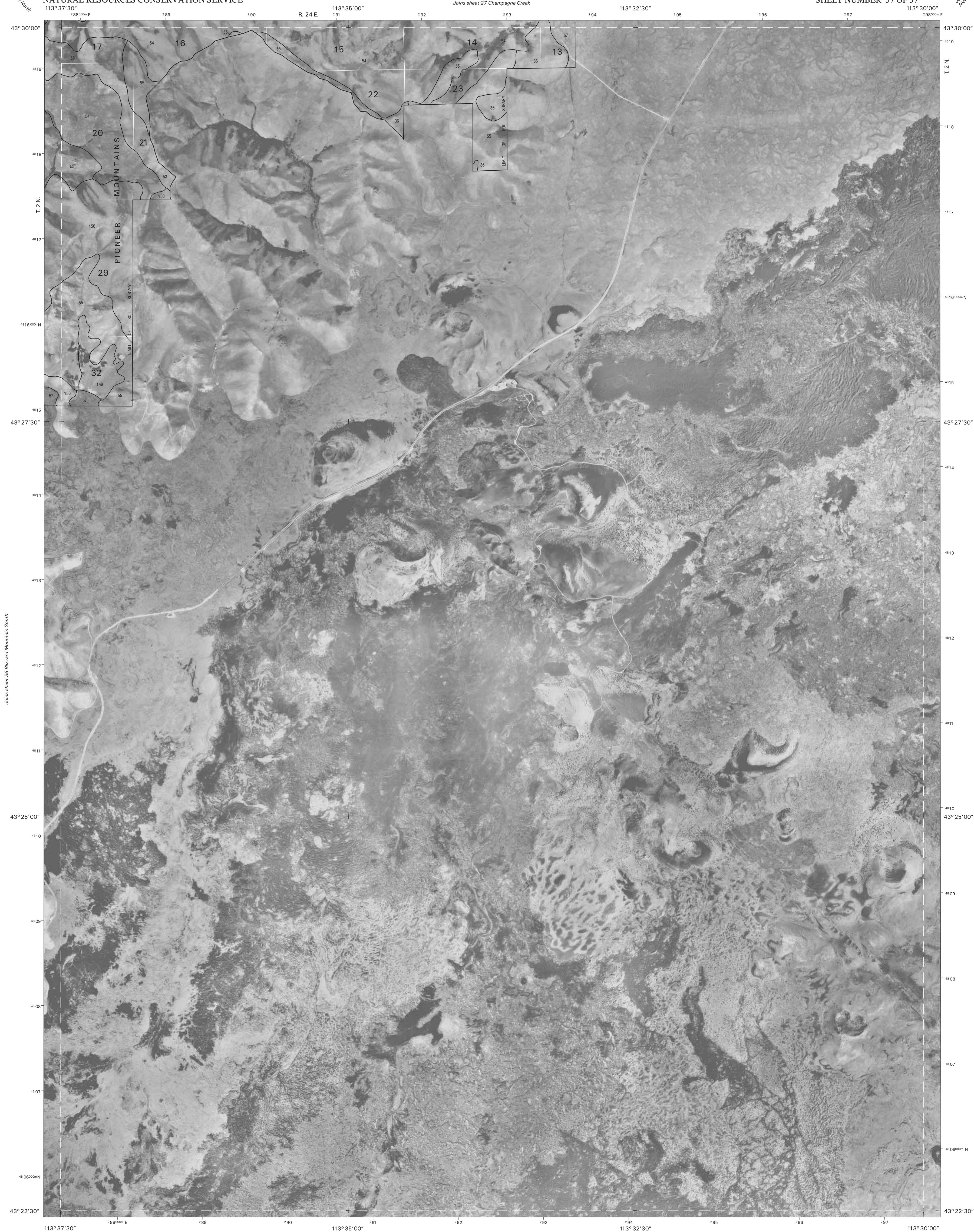
26	27
26	27
37	37

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BLIZZARD MOUNTAIN SOUTH, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 36 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.





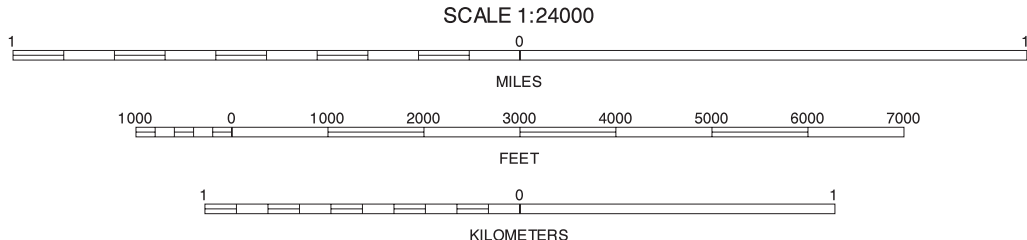
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992-2001 aerial photography. Administrative boundaries were acquired from the State of Idaho. Boundaries may have been edited to conform with features represented on the publication orthophotography or to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



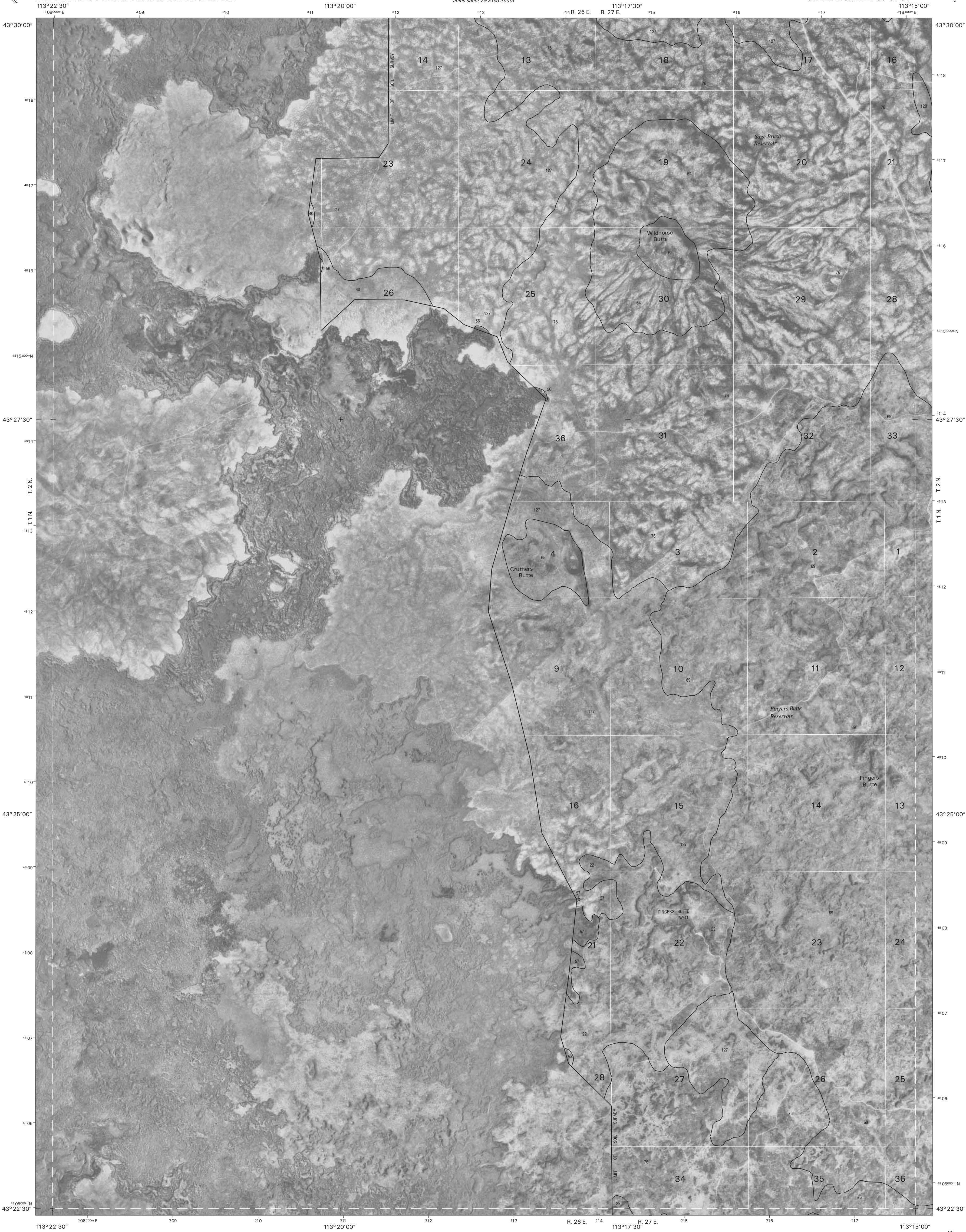
26	27	28
26	27	28
26	27	28

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INFERNO CONE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 37 OF 57

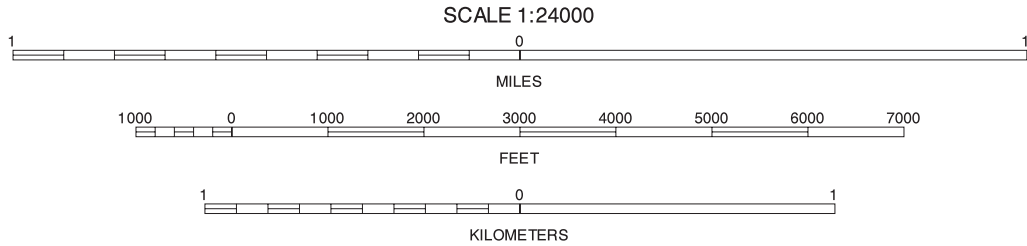
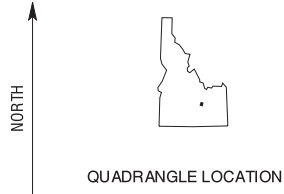
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.





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North American Datum of 1983(NAD83) GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



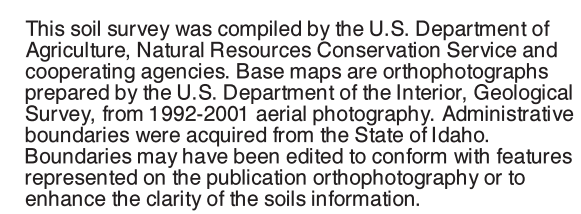
28	29	30
		39
	45	46

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FINGERS BUTTE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 38 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

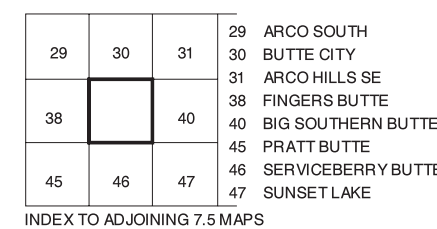




NORTH

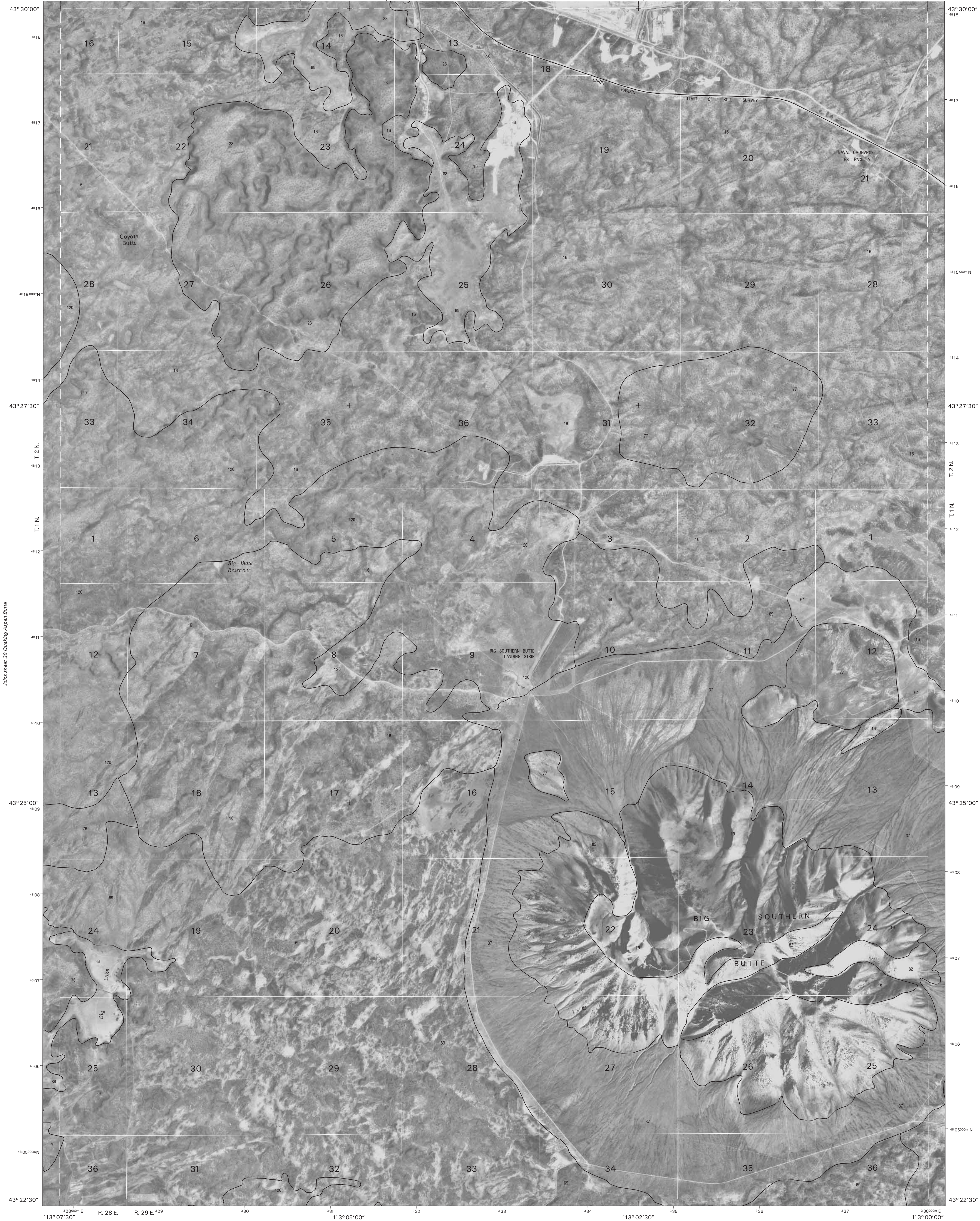


QUADRANGLE LOCATION



Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.





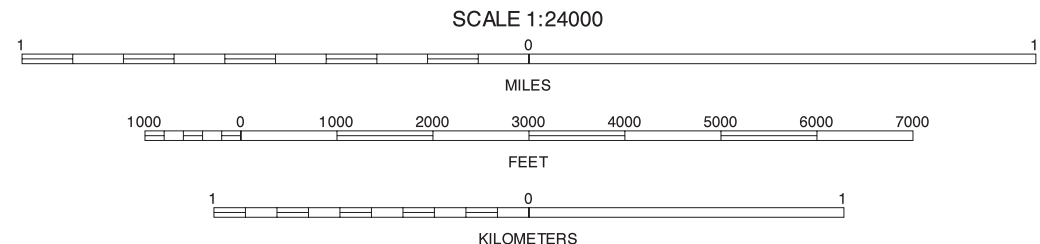
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North American Datum of 1983 (NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



30	31	32
39	40	41
46	47	48

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BIG SOUTHERN BUTTE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 40 OF 57

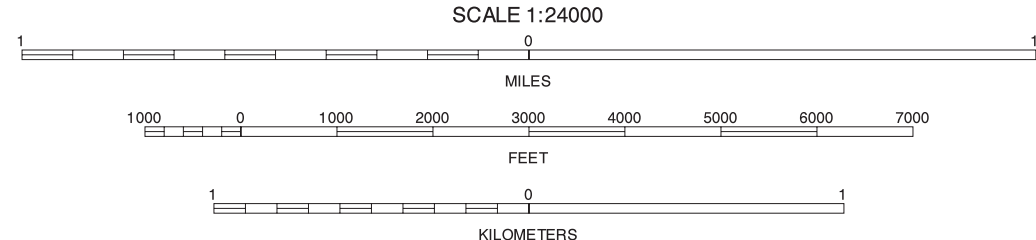
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.





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North American Datum of 1983(NAD83) GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



31	32	33	31 ARCO HILLS SE
40	41	42	32 CIRCULAR BUTTE 3 SW
47	48	49	33 CIRCULAR BUTTE 3 SE
			40 BIG SOUTHERN BUTTE
			42 ATOMIC CITY
			47 SUNSET LAKE
			48 ROCK BUTTE
			49 LAVA LAKE RESERVOIR

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SCOVILLE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 41 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.





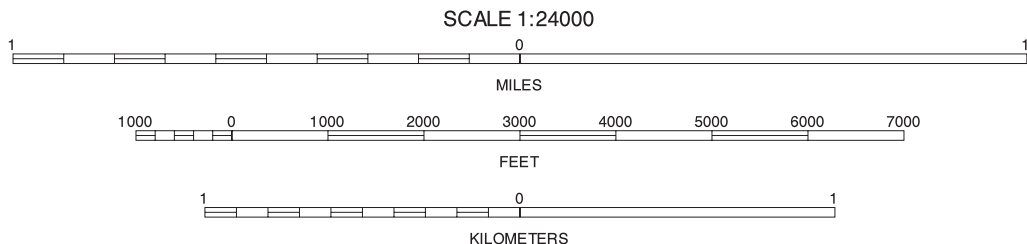
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992-2001 aerial photography. Administrative boundaries were acquired from the State of Idaho. Boundaries may have been edited to conform with features represented on the publication orthophotography or to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



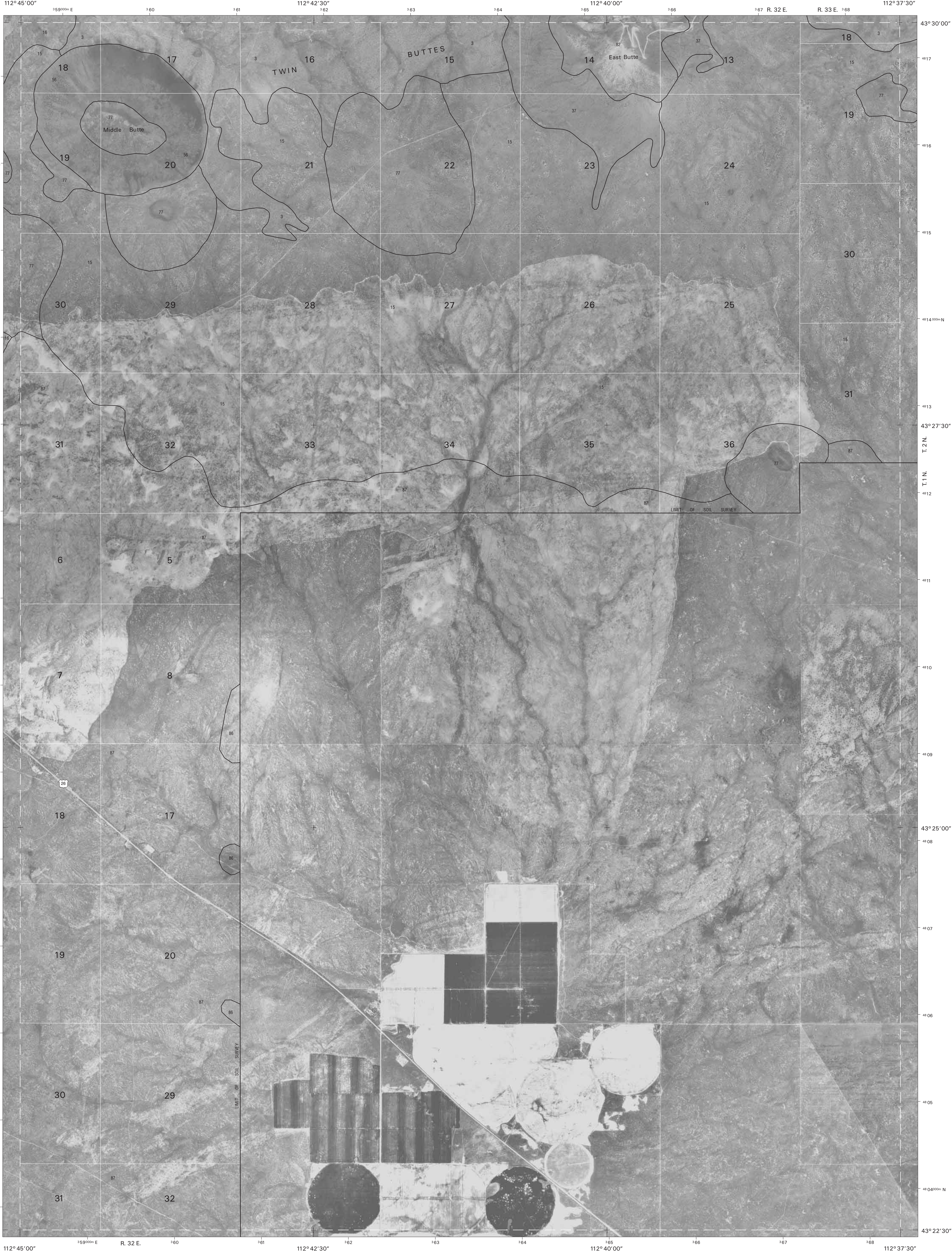
32	33	34
41	42	43
48	49	50

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ATOMIC CITY, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 42 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.





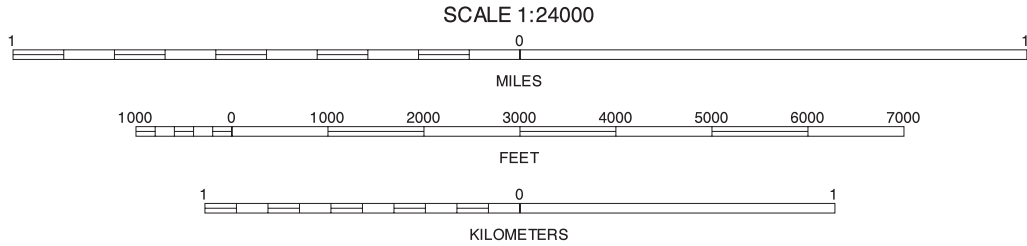
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North American Datum of 1983(NAD83) GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



33	34	35	33 CIRCULAR BUTTE 3 SE
			34 LITTLE BUTTE SW
			35 LITTLE BUTTE
42		44	42 ATOMIC CITY
			44 TABER NE
			49 LAVALAKE RESERVOIR
49	50		50 TABER

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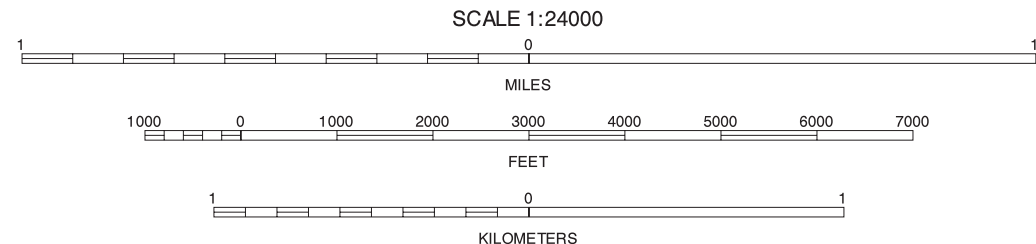
MIDDLE BUTTE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 43 OF 57

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.





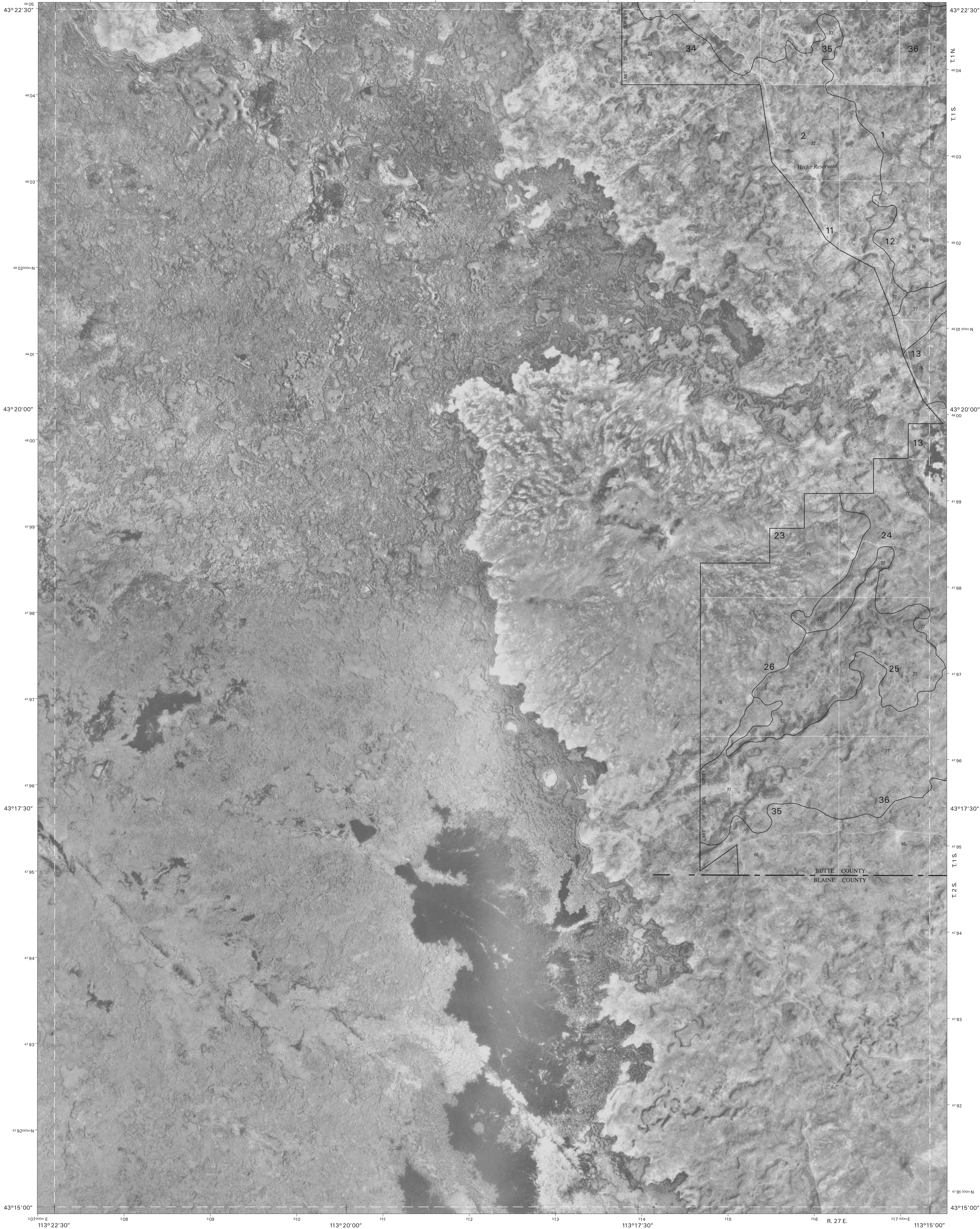
North American Datum of 1983 (NAD83). GRS80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 12  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.



34	35		34 LITTLE BUTTE SW
			35 LITTLE BUTTE
43			43 MIDDLE BUTTE
50			50 TABER

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



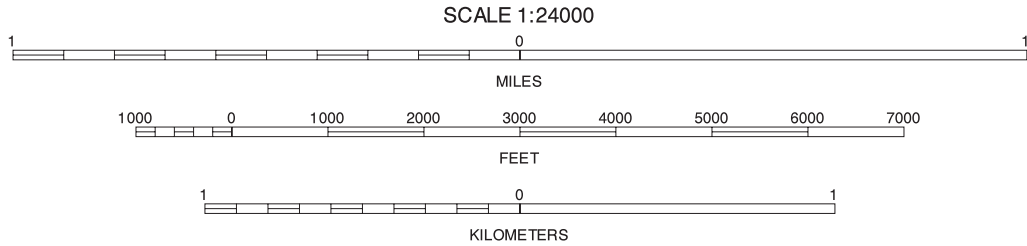


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North American Datum of 1983(NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



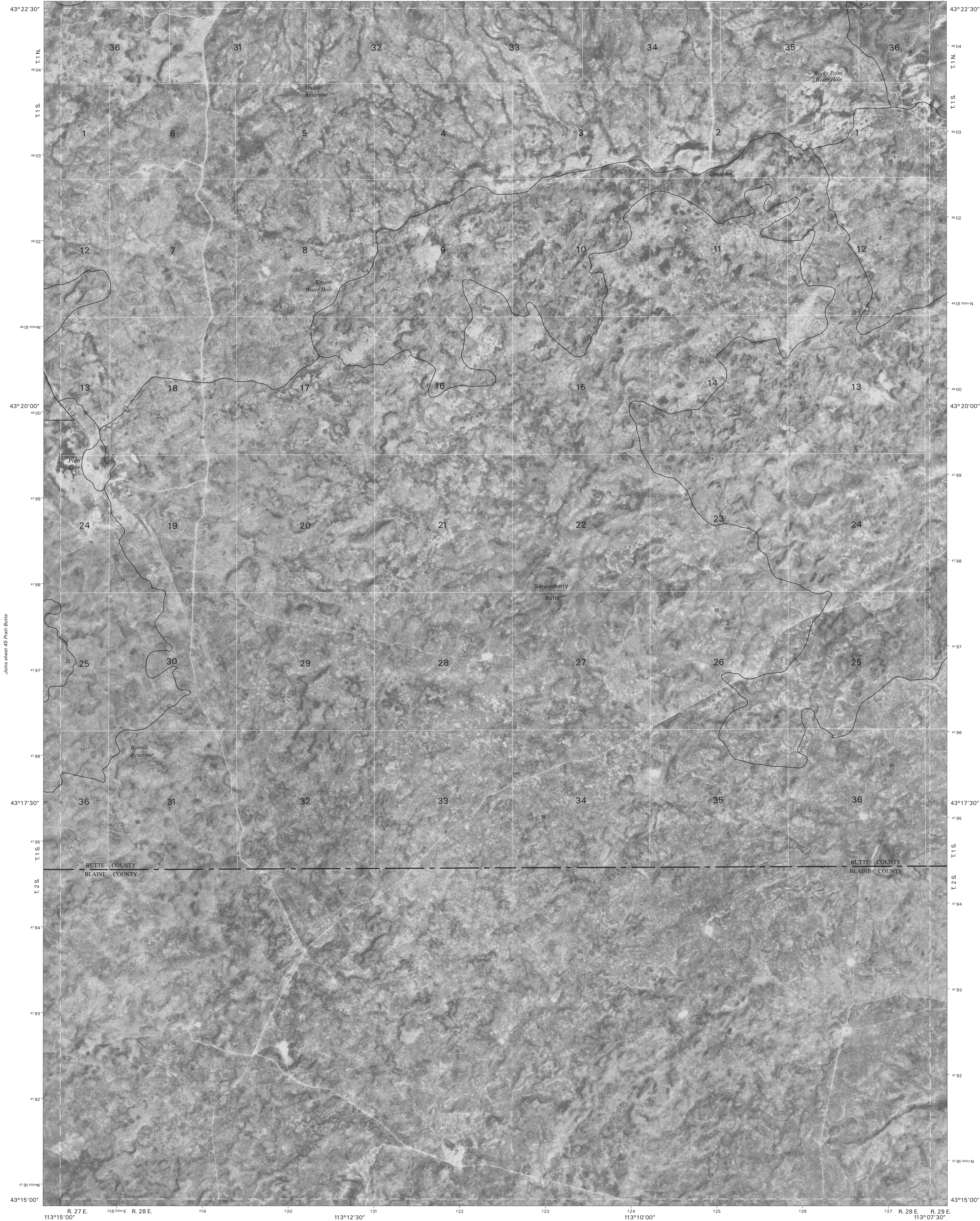
	38	39	38 FINGERS BUTTE
			39 QUAKING ASPEN BUTTE
		46	46 SERVICEBERRY BUTTE

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PRATT BUTTE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 45 OF 57

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.



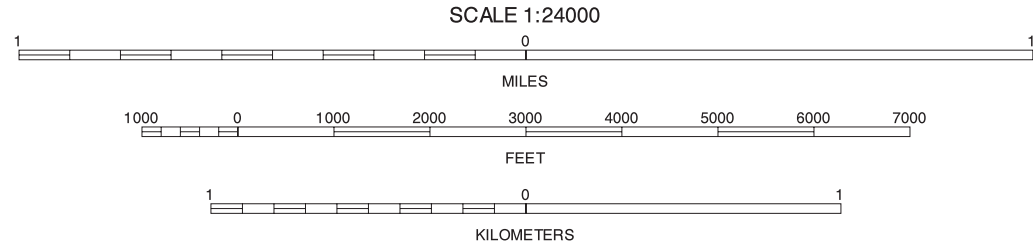


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North American Datum of 1983(NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



38	39	40
45	46	47
	51	

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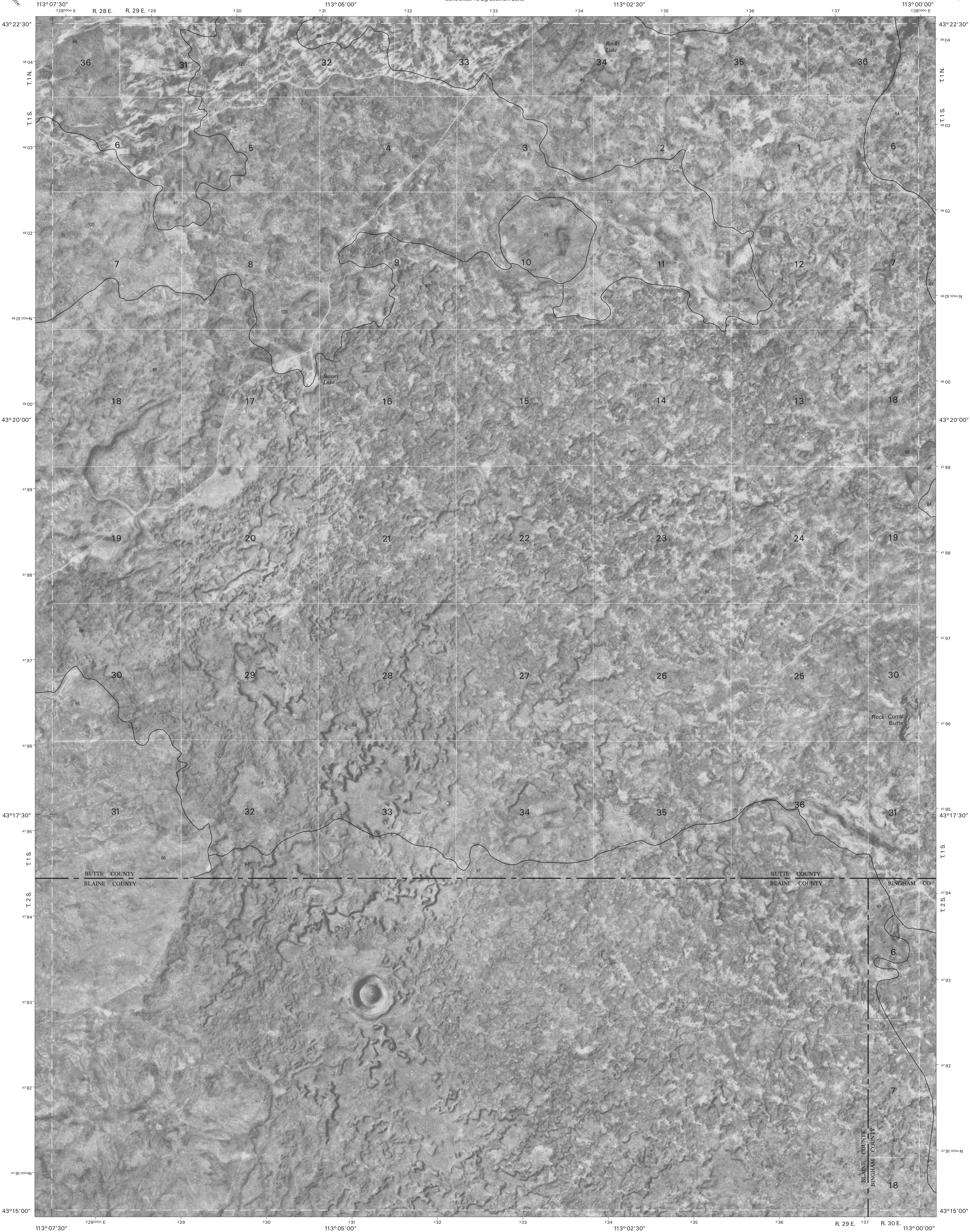
SERVICEBERRY BUTTE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 46 OF 57

Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.



UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

BUTTE COUNTY AREA, IDAHO  
PARTS OF BUTTE AND BINGHAM COUNTIES  
SUNSET LAKE QUADRANGLE  
SHEET NUMBER 47 OF 57

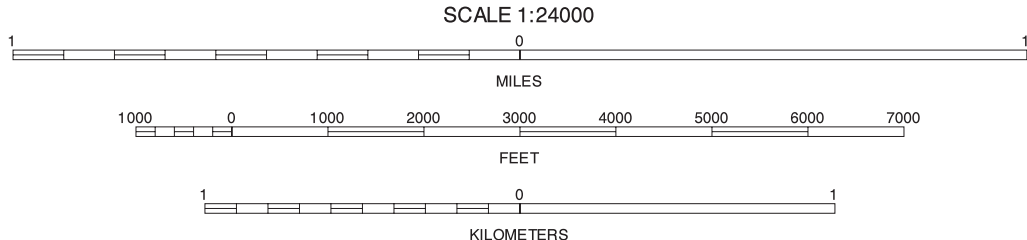


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North American Datum of 1983(NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



39	40	41
46		48
51	52	

39 QUAKING ASPEN BUTTE  
40 BIG SOUTHERN BUTTE  
41 SCOVILLE  
46 SERVICEBERRY BUTTE  
48 ROCK BUTTE  
51 SPLIT TOP  
52 COFFEE POINT

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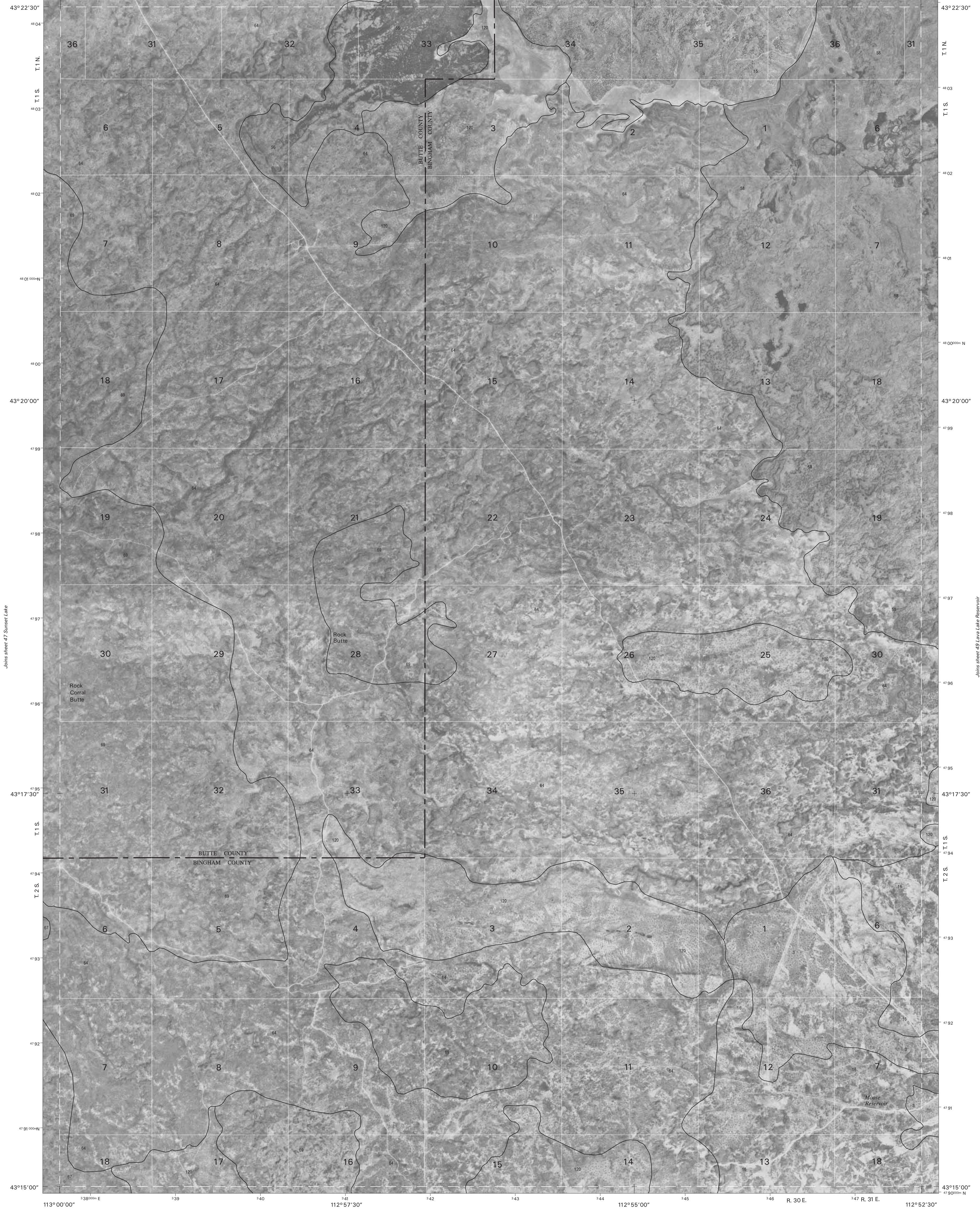
SUNSET LAKE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 47 OF 57

Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.



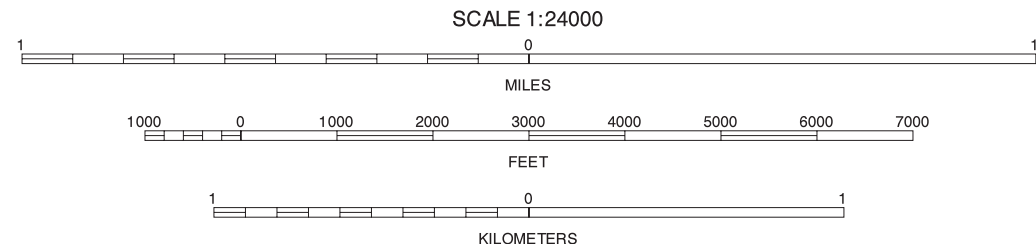
UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

BUTTE COUNTY AREA, IDAHO  
PARTS OF BUTTE AND BINGHAM COUNTIES  
ROCK BUTTE QUADRANGLE  
SHEET NUMBER 48 OF 57



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1992-2001 aerial photography. Administrative boundaries were acquired from the State of Idaho. Boundaries may have been edited to conform with features represented on the publication orthophotography or to enhance the clarity of the soils information.

North American Datum of 1983(NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



40	41	42	40	BIG SOUTHERN BUTTE
47	48	49	41	SCOVILLE
51	52	53	42	ATOMIC CITY
			47	SUNSET LAKE
			49	LAVALAKE RESERVOIR
			51	SPLIT TOP
			52	COFFEE POINT
			53	COFFEE POINT NE

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ROCK BUTTE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 48 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



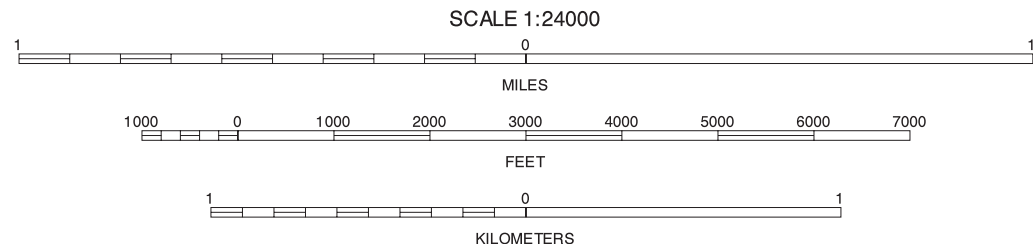


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North American Datum of 1983 (NAD83). GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



41	42	43
48	49	50
52	53	54

41 SCOVILLE  
42 ATOMIC CITY  
43 MIDDLE BUTTE  
48 ROCK BUTTE  
50 TABER  
52 COFFEE POINT  
53 COFFEE POINT NE  
54 SPRINGFIELD NW

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LAVA LAKE RESERVOIR, IDAHO  
7.5 MINUTE SERIES  
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Soil map delineations extending beyond the dashed white quadrangle outline are for reference only and are included on adjacent map sheets.



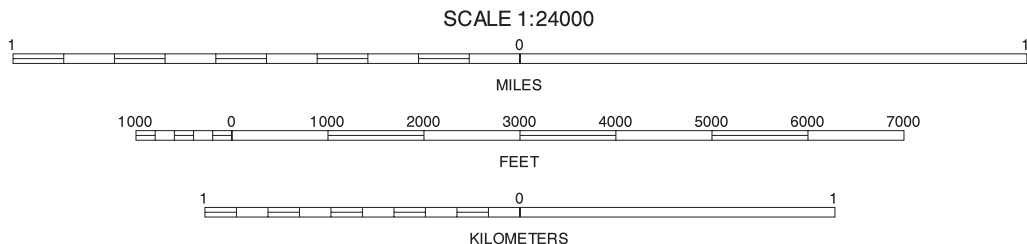


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North American Datum of 1983 (NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



42	43	44	42 ATOMIC CITY
			43 MIDDLE BUTTE
			44 TABER NE
49			49 LAVALAKE RESERVOIR
			53 COFFEE POINT NE
53	54		54 SPRINGFIELD NW

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TABER, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 50 OF 57

Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.



Joins sheet 46  
Serviceberry Butte

UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

BUTTE COUNTY AREA, IDAHO  
PARTS OF BUTTE AND BINGHAM COUNTIES  
SPLIT TOP QUADRANGLE  
SHEET NUMBER 51 OF 57

Joins sheet 48  
Rock Butte



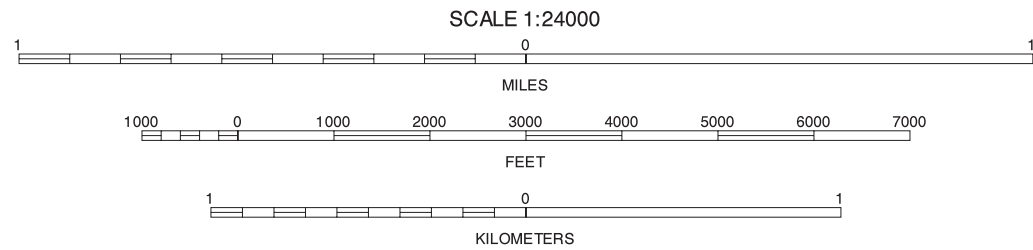
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North American Datum of 1983(NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



46	47	48	46	SERVICEBERRY BUTTE
			47	SUNSET LAKE
			48	ROCK BUTTE
		52	52	COFFEE POINT
	55	56	55	MOSBY WELL
			56	COFFEE POINT SW

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SPLIT TOP, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 51 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 55  
Coffee Point SW



UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

BUTTE COUNTY AREA, IDAHO  
PARTS OF BUTTE AND BINGHAM COUNTIES  
COFFEE POINT QUADRANGLE  
SHEET NUMBER 52 OF 57

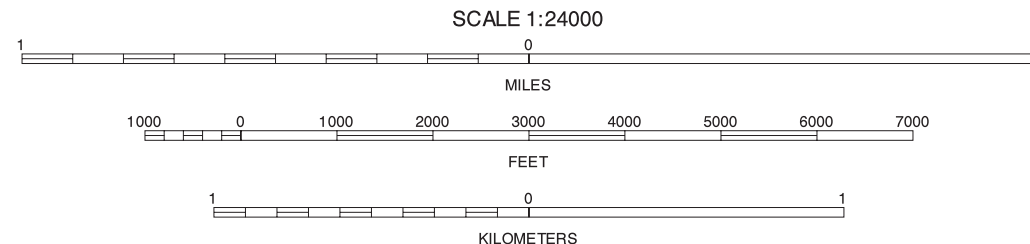


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North American Datum of 1983(NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



47	48	49
51	52	53
55	56	57

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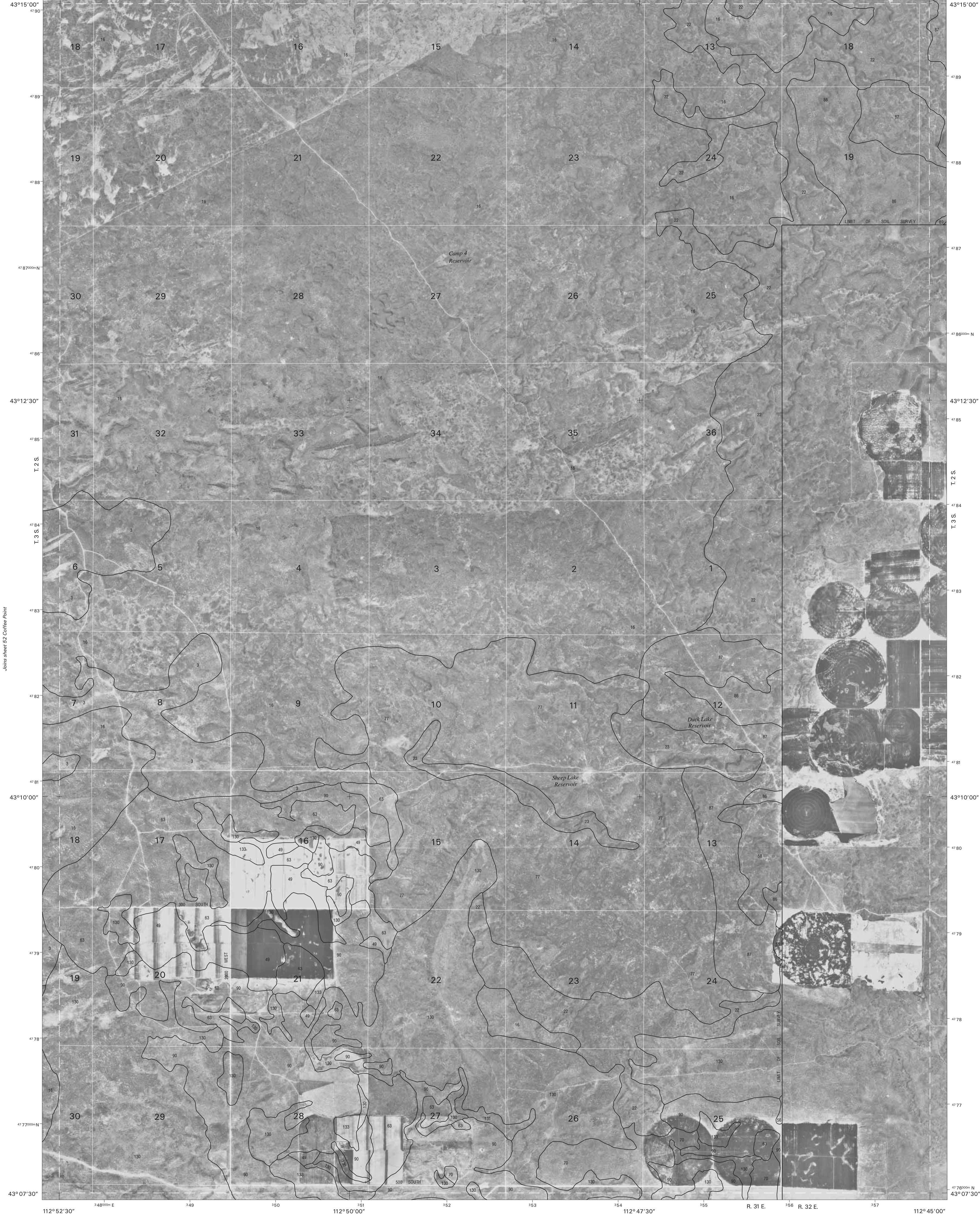
COFFEE POINT, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 52 OF 57

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



Joins sheet 49 Lava Lake Reservoir

Joins sheet 50  
Taber

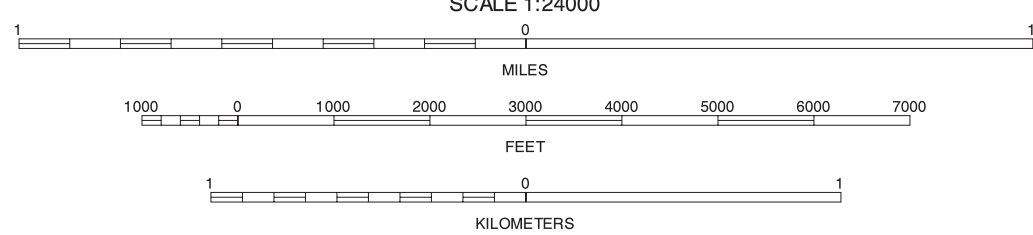
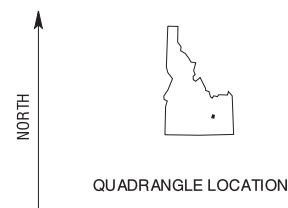


112°52'30" 112°50'00" 112°47'30"

Joins sheet 57 Big Fill Reservoir

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North American Datum of 1983(NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



48	49	50
52	53	54
56	57	

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COFFEE POINT NE, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 53 OF 57

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.



Joins sheet 49  
Lava Lake Reservoir

Joins sheet 50 Taber

43°15'00"  
T. 2  
S.

47 86°00'00" N

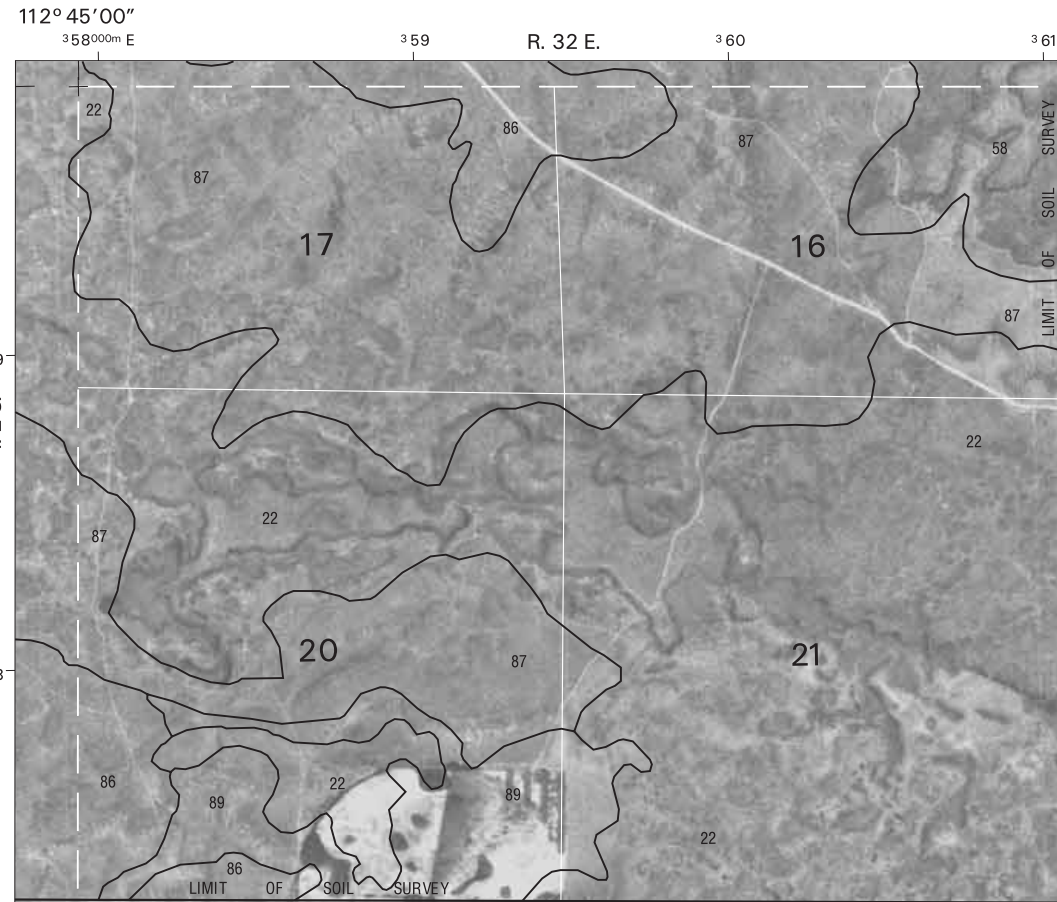
Joins sheet 53 Coffee Point NE

43°10'00"

47 78°

47 77°

47 76°00'00" N  
43° 07' 30"



43°15'00"  
47 89  
47 88  
47 87  
47 86°00'00" N  
43°12'30"  
47 85  
47 84  
47 83  
47 82  
47 81  
43°10'00"  
47 80  
47 79  
47 78  
47 77  
47 76°00'00" N  
43° 07' 30"

112° 45' 00" 112° 42' 30" 112° 40' 00" 112° 37' 30"

Joins sheet 57  
Big Fill Reservoir

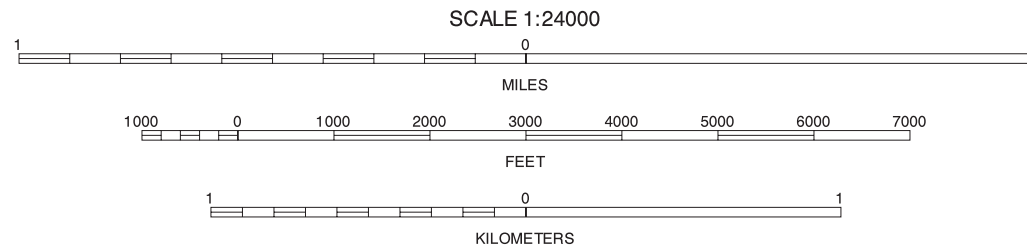
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North American Datum of 1983(NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



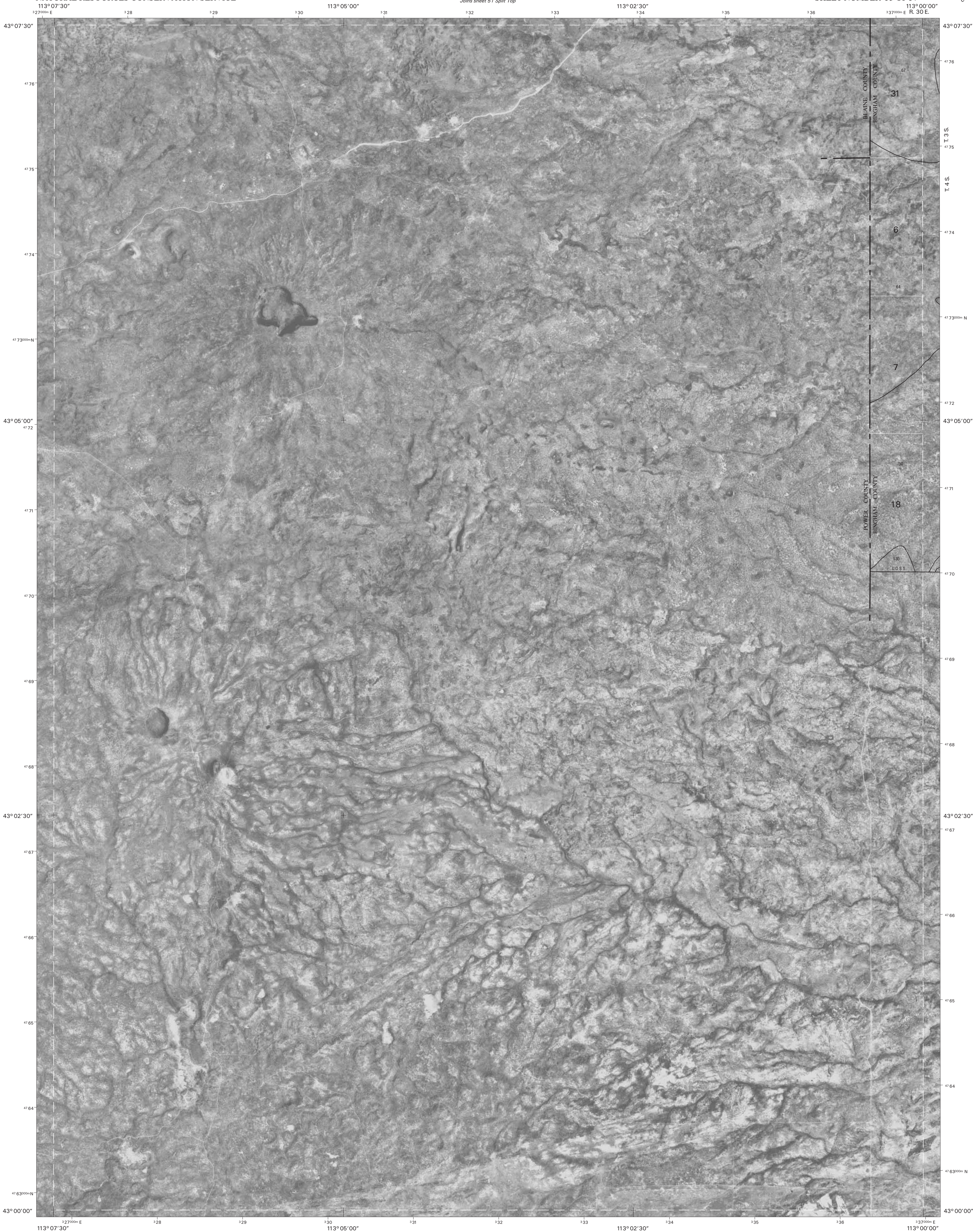
49	50		49 LAVA LAKE RESERVOIR
			50 TABER
53			53 COFFEE POINT NE
			57 BIG FILL RESERVOIR
57			

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SPRINGFIELD NW, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 54 OF 57

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.





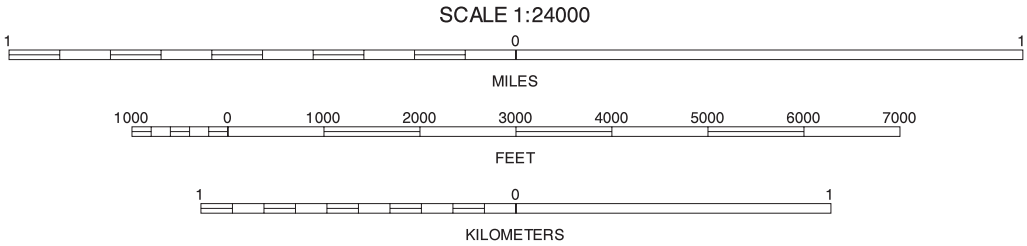
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North American Datum of 1983(NAD83), GRS80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION



51	52	51 SPLIT TOP
52	52 COFFEE POINT	
56	56 COFFEE POINT SW	

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MOSBY WELL, IDAHO  
7.5 MINUTE SERIES  
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.





51	52	53	51 SPLIT TOP
			52 COFFEE POINT
			53 COFFEE POINT NE
55		57	55 MOSBY WELL
			57 BIG FILL RESERVOIR

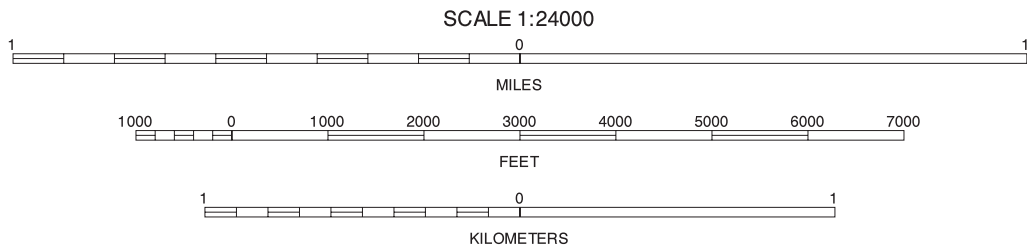
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52	53	54	52 COFFEE POINT
			53 COFFEE POINT NE
			54 SPRINGFIELD NW
56			56 COFFEE POINT SW

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BIG FILL RESERVOIR, IDAHO  
7.5 MINUTE SERIES  
SHEET NUMBER 57 OF 57

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